



**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**CITY OF HOUSTON  
9003 NORTH MAIN STREET  
HOUSTON, TX  
ATC PROJECT NO. 73.17331.0074**

**June 30, 2006**

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## EXECUTIVE SUMMARY

ATC Associates completed a limited Phase II Environmental Site Assessment (ESA) of the City of Houston property located at 9003 North Main Street, in Houston, Texas (herein referred to as the subject property). This report details the completion of the Limited Phase II ESA, in accordance with applicable ASTM standards and accepted environmental practices.

This Limited Phase II ESA conducted on June 21, 2006 identified the presence of BTEX and formaldehyde in the soil and groundwater. The constituent concentrations identified during the Phase II ESA were evaluated with respect to previous concentrations associated with the leaking petroleum storage tank (LPST) case and the TRRP Tier 1 groundwater protective concentration levels (PCLs). BTEX concentrations detected during this assessment were above TCEQ action levels for petroleum underground storage tank sites. These concentrations were below the previous concentrations detected at the site when closure was granted in 1997. The evaluation also identified formaldehyde to be below the TRRP Tier 1 groundwater PCL.

Three soil borings were advanced during the course of this Limited Phase II ESA. Soil samples were collected at the 12 – 14 ft below ground surface (bgs) interval in B-1, and the 20-22 ft bgs interval in B-2 and B-3. One soil samples from each boring was analyzed for BTEX by EPA Method 8021B, TPH by TX Method 1005, and Formaldehyde by EPA Method 8315. Analytical results for BTEX and TPH were below previous concentrations under which the site closed and formaldehyde was below the TRRP Tier 1 Residential PCLs.

The soil borings were converted to temporary monitoring wells. Groundwater samples were collected, submitted to Severn Trent Laboratories (STL) and analyzed for BTEX by EPA Method 8021B, TPH by TX Method 1005, and Formaldehyde by EPA Method 8315.

The concentrations identified during the Phase II ESA were evaluated with respect to previous concentrations associated with LPST case and the TRRP Tier 1 groundwater protective concentration levels (PCLs). BTEX was detected above TCEQ action levels but were below previous concentrations at the site. Formaldehyde concentrations were below the TRRP Tier 1 Residential PCLs.

Based on the data provided during the course of this Limited Phase II ESA, it appears that no further actions are recommended for the subject property at this time.

## **1.0 INTRODUCTION**

### **1.1 Purpose and Scope**

ATC Associates (ATC) was contracted by the City of Houston to conduct a Limited Phase II ESA of the subject property located at 9003 North Main in Houston, TX.

The purpose of the Limited Phase II Environmental Site Assessment (ESA) is to assess impact to the property from the LPST release associated with the site as well as reported historical use as a funeral home. The Limited Phase II ESA was performed to assist in confirming the nature and extent of contamination in the soil and groundwater of the above-referenced property.

The scope of the Limited Phase II Investigation included subsurface soil sampling, the installation of three temporary groundwater monitoring points, and groundwater sampling via the installation of three soil borings and temporary monitoring wells.

### **1.2 Background**

The property is owned by the City of Houston, and was formerly used as an office and storage facility by the Street Maintenance Department. The site contains a one-story office building with an attached warehouse area in the eastern section of the property, a metal warehouse building at the north end of the property, and a canopy covered truck wash area on the southwestern portion of the site. The site also contains a concrete paved storage area formerly used for gravel, soil and other bulk materials used for street maintenance. The subject property was also identified in the TCEQ database as a leaking petroleum storage tank (LPST) site. A total of four USTs located at the property were reportedly removed in 1992.

## **2.0 PREVIOUS INVESTIGATIONS**

### **2.1 Phase I Environmental Site Assessments**

Weston conducted a Phase I ESA which identified the following environmental concerns:

- The subject property was identified in the TCEQ database as a leaking petroleum storage tank (LPST) site. A total of four USTs located at the property were reportedly removed in 1992. Following removal of the USTs, an assessment and groundwater monitoring activities were performed at the site. Groundwater was impacted but it was determined that there were no apparent threats or impacts to receptors. TCEQ issued final closure of the LPST case in February 1998.
- The office building present at the property was constructed prior to the 1970s and may contain asbestos and lead-based paint.
- The property was reportedly used as a funeral home prior to 1984; however, no documentation is available to confirm the former presence of a funeral home on the site.

## **2.2 Phase II Environmental Site Assessment**

Carter and Burgess conducted Site Assessment activities at the site under the TCEQs LPST program in June 1995. Three groundwater monitoring wells were installed and soil and groundwater sampling was conducted. The soil and groundwater concentrations were above TCEQ action levels and the site was issued LPST number 104846. Groundwater monitoring was conducted and the site was closed in December 1997.

## **3.0 SOIL ASSESSMENT**

### **3.1 Soil Boring Advancement and Sample Collection**

On June 21, 2006, three soil borings were advanced with push-probe drilling equipment in the areas of the former USTs and near the back door of the office building. A site map depicting the soil boring location is included as Figure 1. The soil boring logs are provided in Appendix B.

During the advancement of the soil borings, soils were sampled continuously every 2 feet. One soil sample from each soil boring was selected for analysis; either the sample with the highest OVM reading or the sample at the soil groundwater interface was collected for laboratory analysis. Each soil sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, total petroleum hydrocarbons (TPH) by Texas Method 1005, and formaldehyde by EPA Method 8315.

### **3.2 Laboratory Analysis**

Analytical results of the soil samples collected by ATC indicated the presence of BTEX, and formaldehyde. Benzene concentrations ranged from below laboratory method detection limits in boring B-1 and B-3 to 0.072 mg/kg in B-1. Total BTEX concentrations ranged from below laboratory method detection limits in borings B-1 and B-3 to 2.982 mg/kg in B-2. TPH results were below laboratory method detection limits in the samples that were submitted for analysis. Formaldehyde was detected at concentrations of 2.520 mg/kg in B-1, 0.575 mg/kg in B-2, and 0.357 mg/kg in B-3. A copy of the laboratory analytical report by STL is provided in Appendix B.

The benzene concentration detected in B-2 is above the TCEQ action level for a UST site but is below the concentrations under which the site closed in 1997. The formaldehyde concentrations are below the TRRP Tier 1 Residential PCLS.

## **4.0 GROUNDWATER ASSESSMENT**

### **4.1 Groundwater Sampling**

The soil borings were converted to temporary groundwater monitoring wells. The temporary monitoring wells were constructed of threaded connection 1-inch ID, Schedule 40 PVC solid pipe, and 0.010-inch slotted PVC well screen.

On June 21, 2006, the three temporary monitoring wells were purged and sampled using a peristaltic pump. The wells were purged prior to sampling to reduce the amount of sediment present in the groundwater samples.

#### **4.2 Laboratory Analysis**

The analytical results of the groundwater samples obtained by ATC from the temporary monitoring wells on June 21, 2006 indicated concentrations of BTEX and formaldehyde. Benzene concentrations ranged from below laboratory method detection limits in B-2 and B-3 to 25.6 ug/L in B-1. Total BTEX concentrations ranged from below laboratory detection limits in B-3 to 561 ug/L in B-1. Formaldehyde concentrations were 27.6 ug/L in B-1, 46.4 ug/L in B-2, and 9.8 ug/L in B-3. TPH concentrations were below laboratory detection limits in the three borings. A copy of the laboratory analytical report is included in Appendix B

### **5.0 REGULATORY EVALUATION**

Analytical laboratory results from this Limited Phase II ESA were compared to action levels established by the TCEQ and to applicable TRRP PCL. In addition, BTEX and TPH concentrations were compared to previous concentrations from when the site was in the TCEQ LPST program.

#### **5.1 Soils**

The benzene concentration detected in B-1 is above the TCEQ action levels for UST sites but is less than previous concentrations under which the site closed in 1997. The formaldehyde concentrations detected in the groundwater samples collected from the temporary monitoring wells was below the TRRP Tier I Residential PCLs.

#### **5.2 Groundwater**

The benzene concentration detected in B-1 is above the TCEQ action levels for UST sites but is less than previous concentrations under which the site closed in 1997. The formaldehyde concentrations detected in the groundwater samples collected from the temporary monitoring wells was below the TRRP Tier I Residential PCLs.

### **6.0 QUALITY CONTROL/QUALITY ASSURANCE**

#### **6.1 Decontamination Procedures**

Drill operations were conducted using hydraulic direct push rig, with plastic sleeves, which were replaced after each 4-foot push. The auger drill rig used metal samplers which were cleaned in an alconox solution after each sample.

## **6.2 Field QA/QC Procedures**

Soil samples submitted for laboratory analysis were contained within a Teflon-lined glass jar, placed on ice, and transported to the laboratory for analysis. Soil samples submitted to the laboratory were analyzed for BTEX, TPH and formaldehyde.

The groundwater samples submitted for laboratory analysis were contained within the appropriate containers, placed on ice, and transported to the laboratory for analysis. The groundwater sample submitted to the laboratory was analyzed for BTEX, TPH and formaldehyde.

Each sample was labeled and secured to preserve the integrity of the identification, from the time the sample was collected until it was opened at the laboratory. For each sample, the sample container label and chain-of-custody form were completed. Soil and groundwater samples were immediately placed in a cooler containing ice or frozen ice packs and hand delivered to the laboratory.

## **6.3 Sample Quality Control/Quality Assurance**

Various QA/QC procedures were followed by the environmental laboratory. Prior to initiating analysis, it is required to establish that a given instrument meets the method tuning standard. The calibration of each instrument was verified at frequencies specified in the EPA approved methods. A new standard curve must be prepared as specified in each method per EPA Method SW-846.

Prior to analysis, instruments are required to be calibrated by the appropriate procedure. Each calibration standard was tabulated and the retention times recorded. The laboratory QA/QC results are provided in Appendix C.

# **7.0 CONCLUSIONS AND RECOMMENDATIONS**

## **7.1 Conclusions**

ATC has provided the following conclusions of this Phase II Site Assessment based on the field activities conducted on June 21, 2006 at the subject property, and on laboratory analytical data of media samples collected by ATC.

- The soils at the site consist of silty clays. Groundwater was encountered at a depth of approximately 15 to 21 feet bgs. Three temporary monitoring wells were installed to a maximum depth of 25 feet bgs.
- Analytical results of soil samples collected during the advancement of three soil borings along the west/southwest property boundary indicated the presence of BTEX and formaldehyde
- Formaldehyde concentrations in soil and groundwater were below the TRRP Tier I Residential PCLs



## **7.2 Recommendations**

Based on the analytical results of soil and groundwater samples collected during this Limited Site Assessment, no further action is recommended at this time. Even though the Benzene concentrations were above TCEQ action levels, they were below the previous soil and groundwater concentrations detected at the site under which site closure was achieved.

**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**  
**9003 North Main**  
**Houston, Texas**

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**TABLES**

**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
City of Houston  
9003 North Main  
Houston, Texas

Well	Date	Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Total Petroleum Hydrocarbons			
								C6-C12 (mg/kg)	C12-C28 (mg/kg)	C6-C28 (mg/kg)	Total C6-C35
B-1	06/21/06	12-14	<0.0056	<0.00774	<0.00742	<0.0233	ND	<6.57	<13.8	<13.8	<13.8
B-2	06/21/06	20-22	0.0721	0.155	0.785	1.970	2.982	<6.32	<13.3	<13.3	<13.3
B-3	06/21/06	20-22	<0.00539	<0.00745	<0.00715	<0.0224	ND	<6.33	<13.3	<13.3	<13.3
											0.575
											0.357

**Notes:**

mg/kg - milligrams per kilogram or parts per million.  
BTEX - benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B.  
ND - not detected above laboratory detection limits.  
NA - not available.

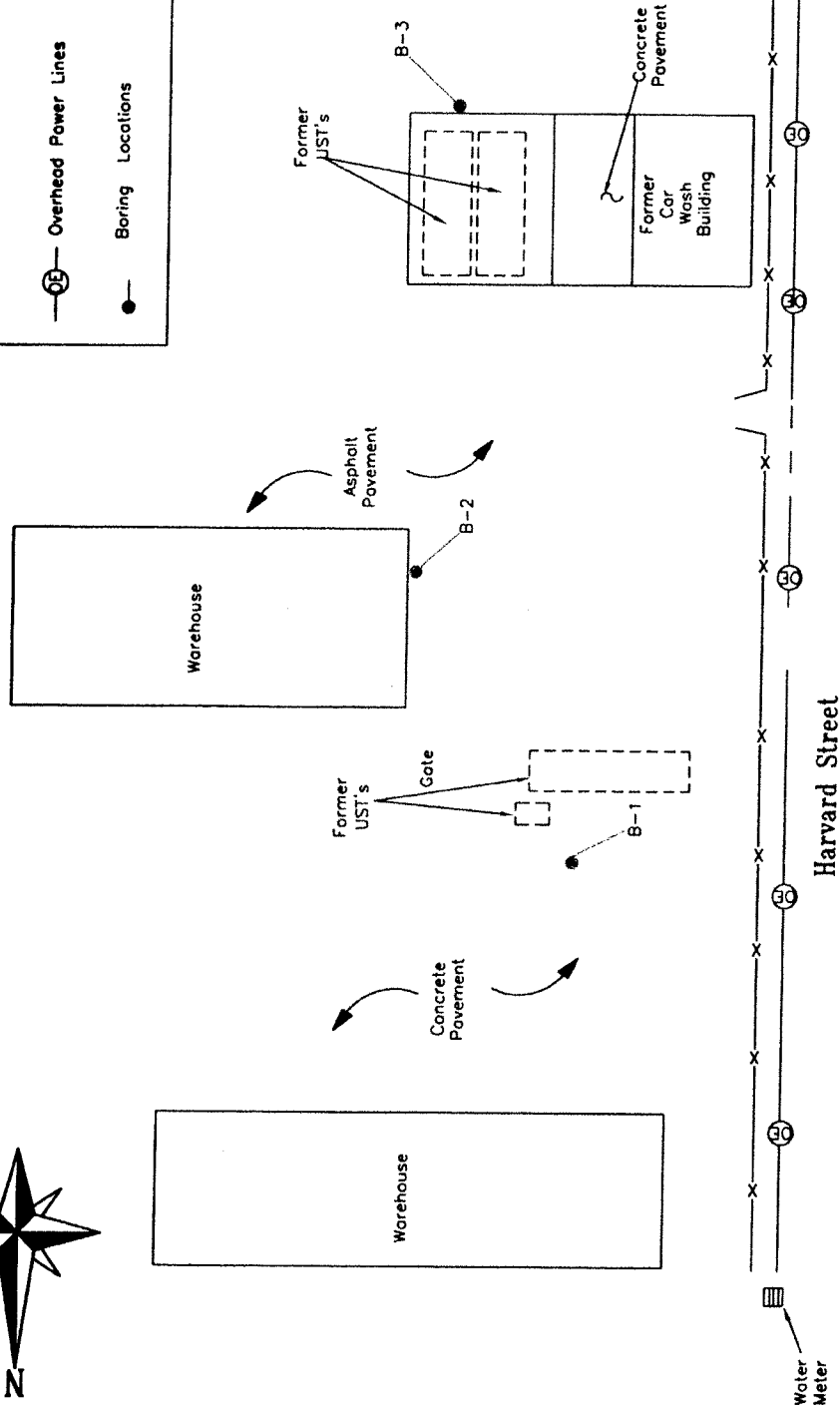
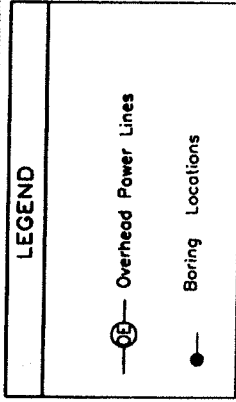
**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
City of Houston  
9003 North Main  
Houston, Texas

Well	Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Total Petroleum Hydrocarbons				Formaldehyde (ug/L)
							C6-C12 (mg/L)	C12-C28 (mg/L)	C6-C28 (mg/L)	Total C6-C35	
B-1	06/21/06	25.6	7.1	131	396.9	561	<0.48	<0.83	<0.83	<0.83	27.6
B-2	06/21/06	<0.170	<0.190	0.67	2.37	3.40	<0.48	<0.83	<0.83	<0.83	46.4
B-3	06/21/06	<0.170	<0.190	<0.230	<0.560	ND	<0.48	<0.84	<0.84	<0.84	9.8

**Notes:**

mg/kg - milligrams per kilogram or parts per million.  
BTEX - benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B.  
ND - not detected above laboratory detection limits.  
NA - not available.

## FIGURES



3028 Buckhorn Lane  
Houston, Texas 77077  
(281) 460-9154  
(281) 240-0000 Fax



**SITE & LOCATION MAP**  
City of Houston  
9003 North Main Street  
Houston, Texas

PROJECT NO.  
73.17331.0074  
SCALE:  
NOT TO SCALE  
DATE: JUNE 2006









FIGURE NO.: 1

# **APPENDIX A**


## **SOIL BORING LOGS**

PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►	WELL DEPTH(FT) ►	WATER DEPTH(FT)—Initial:		Complete:	
WELL MATERIALS ►		OVM/OVA ► OVM			
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY		OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION	GRAPHIC		RECOVERY %	TIME	NUMBER	
0	Concrete		3				(12-14')
	Gravel and Sand fill						
	Brown and gray silty clay						
5			13				
	-mixed with sand		2				
10	Brown and gray silty clay		14				
	Gray sand wet @ 13'						
15	Brown and gray silty clay		9				
20	End Of Boring @ 20'						
	GW sample collected						
25							
30							












  

<b>BORING DESIGNATION</b> <b>B-1</b>	 <b>VATC</b> <small>ASSOCIATES INC.</small>	<b>PAGE NUMBER</b> <b>1 OF 1</b>
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PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►	WELL DEPTH(FT) ►	WATER DEPTH(FT) - Initial:		Complete:	
WELL MATERIALS ►			OVM/OVA ► OVM		
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY	GRAPHIC	OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION			RECOVERY %	TIME	NUMBER	
0	Concrete		0				
	Dark gray, silty clay						
5	Gray, silty clay- moist few Ca Nodules		0				
			0				
10	Gray and brown clay- moist, firm, Fe stains		0				
			0				
15	Red and gray clay		0				
			0				
20	With sand seams- wet						(20-22')
							
			0				
25	End Of Boring @ 24' GW sample collected						
30							


BORING DESIGNATION <b>B-2</b>	 <b>VATC</b> ASSOCIATES INC.	PAGE NUMBER <b>1 OF 1</b>
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PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►		WELL DEPTH(FT) ►		WATER DEPTH(FT)—Initial:      Complete:	
WELL MATERIALS ►			OVM/OVA ► OVM		
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY		OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION	GRAPHIC		RECOVERY %	TIME	NUMBER	
0	Asphalt		0				
	Brown and gray silt						
	Gray, silty clay, moist, soft						
5	Gray, silty clay— moist few Co Nodules		0				
			0				
10	Fe staining below 10'		0				
			0				
15	Red and gray clay, moist, stiff		0				
			0				
20	sand seams— wet						
25	End Of Boring @ 24' GW sample collected						
30							

BORING DESIGNATION B-3	 VATC ASSOCIATES INC.	PAGE NUMBER 1 OF 1
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**APPENDIX B**

**LABORATORY REPORTS AND CHAIN-OF-CUSTODY  
DOCUMENTATION**

## ANALYTICAL REPORT

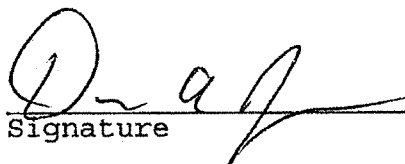
JOB NUMBER: 318054  
Project ID: 9003 N. MAIN

Prepared For:

ATC Associates, Inc.  
3928 Bluebonnet Drive  
Stafford, TX 77477

Attention: Patrick Dworaczyk

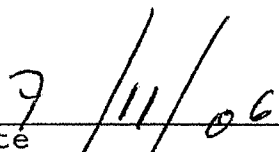
Date: 07/10/2006

  
Signature

Name: Dean A. Joiner

Title: Project Manager II

E-Mail: djoiner@stl-inc.com

  
Date

Severn Trent Laboratories  
6310 Rothway Drive  
Houston, TX 77040

PHONE: 713-690-4444

TOTAL NO. OF PAGES 48



STL

07/10/2006

Patrick Dworaczyk  
ATC Associates, Inc.  
3928 Bluebonnet Drive  
Stafford, TX 77477

Reference:

Project : 9003 N. MAIN  
Project No. : 318054  
Date Received : 06/21/2006  
STL Job : 318054

Dear Patrick Dworaczyk:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

1. B-1 12-14
2. B-2 20-22
3. B-3 20-22
4. B-1
5. B-2
6. B-3
7. TRIP BLANK

All hold times were met for the tests performed on these samples.

Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

The test results in this report meet all NELAP requirements for STL Houston's NELAP accredited parameters. Any exceptions to NELAP requirements will be noted and included in a case narrative as a part of this report.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Severn-Trent Laboratories to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dean A. Joiner".

Dean A. Joiner  
Project Manager

Table 1  
Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	Laboratory Identification	8021B	TX1005	8315	Comment
B-1 12-14	318054-1	X	X	X	
B-2 20-22	318054-2	X	X	X	
B-3 20-22	318054-3	X	X	X	
B-1	318054-4	X	X	X	
B-2	318054-5	X	X	X	
B-3	318054-6	X	X	X	
TRIP BLANK	318054-7				Trip Blank; Not on C-O-C; No Tests Assigned

# Appendix A Laboratory Data Package Cover Page

This data package consists of:

- This signature page, the laboratory review checklist, and the following reportable data:
- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

**Release Statement:** I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

**Check, if applicable:** ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Norman Flynn  
Name (Printed)

Signature

Laboratory Director  
Official Title (printed)

Date

7/12/06

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston		LRC Date: 06/26/06						
Project Name: 9003 N. MAIN		Laboratory Job Number: 318054						
Reviewer Name: MW		Prep Batch Number(s): 157296 (Soil)-TX1005						
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	<b>Chain-of-custody (C-O-C)</b>						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X				1
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	<b>Sample and quality control (QC) identification</b>						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	<b>Test reports</b>						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample quantitation limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		If required for the project, TICs reported?				X		
R4	O	<b>Surrogate recovery data</b>						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	<b>Test reports/summary forms for blank samples</b>						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	<b>Laboratory control samples (LCS):</b>						
		Were all COCs included in the LCS?		X				2
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?				X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X		3
		Were MS/MSD RPDs within laboratory QC limits?				X		3
R8	OI	<b>Analytical duplicate data</b>						
		Were appropriate analytical duplicates analyzed for each matrix?			X			
		Were analytical duplicates analyzed at the appropriate frequency?			X			
		Were RPDs or relative standard deviations within the laboratory QC limits?			X			
R9	OI	<b>Method quantitation limits (MQLs):</b>						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs included in the laboratory data package?	X					
R10	OI	<b>Other problems/anomalies</b>						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X					

SX

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).



# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157296 (Soil)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

- Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).
- Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- NA = Not applicable.
- NR = Not Reviewed.
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>Appendix A (cont'd): Laboratory Review Checklist: Exception Reports</b>	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: MW	Prep Batch Number(s): 157296 (Soil)-TX1005
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	Since calibration to the C28-C35 range is not required by the method, this range was not spiked into the LCS/LCSD. The final concentration of any hydrocarbons detected in this range was calculated from the response factor of the C12-C28 hydrocarbons. Based on this fact, the extraction efficiency of the C28-C35 range hydrocarbons was determined from the recovery of the C12-C28 hydrocarbons.
3	The laboratory selected another client's sample to perform as the MS/MSD.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157449 (Water)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?		X			2
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

SX

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157449 (Water)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).
- 2 Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 3 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 4 NA = Not applicable.
- 5 NR = Not Reviewed.
- 6 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: MW	Prep Batch Number(s): 157449 (Water)-TX1005
ER #	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	Since calibration to the C28-C35 range is not required by the method, this range was not spiked into the LCS/LCSD. The final concentration of any hydrocarbons detected in this range was calculated from the response factor of the C12-C28 hydrocarbons. Based on this fact, the extraction efficiency of the C28-C35 range hydrocarbons was determined from the recovery of the C12-C28 hydrocarbons.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data								
Laboratory Name: STL-Houston			LRC Date: 06/26/06					
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054					
Reviewer Name: ERA			Prep Batch Number(s): 157581 (Soil)-BTEx					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	<b>Chain-of-custody (C-O-C)</b>						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X				1
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	<b>Sample and quality control (QC) identification</b>						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	<b>Test reports</b>						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample quantitation limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		If required for the project, TICs reported?			X			
		R4	O	<b>Surrogate recovery data</b>				
Were surrogates added prior to extraction?	X							
Were surrogate percent recoveries in all samples within the laboratory QC limits?				X				2
R5	OI	<b>Test reports/summary forms for blank samples</b>						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	<b>Laboratory control samples (LCS):</b>						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X			
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X					
		Were MS/MSD RPDs within laboratory QC limits?	X					
R8	OI	<b>Analytical duplicate data</b>						
		Were appropriate analytical duplicates analyzed for each matrix?			X			
		Were analytical duplicates analyzed at the appropriate frequency?			X			
		Were RPDs or relative standard deviations within the laboratory QC limits?			X			
R9	OI	<b>Method quantitation limits (MQLs):</b>						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs included in the laboratory data package?	X					
R10	OI	<b>Other problems/anomalies</b>						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X					

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
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- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data									
Laboratory Name: STL-Houston					LRC Date: 06/26/06				
Project Name: 9003 N. MAIN					Laboratory Job Number: 318054				
Reviewer Name: ERA					Prep Batch Number(s): 157581 (Soil)-BTEx				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
S1	OI	<b>Initial calibration (ICAL)</b>							
		Were response factors and/or relative response factors for each analyte within QC limits?	X						
		Were percent RSDs or correlation coefficient criteria met?	X						
		Was the number of standards recommended in the method used for all analytes?	X						
		Were all points generated between the lowest and highest standard used to calculate the curve?	X						
		Are ICAL data available for all instruments used?	X						
		Has the initial calibration curve been verified using an appropriate second source standard?	X						
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>							
		Was the CCV analyzed at the method-required frequency?	X						
		Were percent differences for each analyte within the method-required QC limits?	X						
		Was the ICAL curve verified for each analyte?	X						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X				
S3	O	<b>Mass spectral tuning:</b>							
		Was the appropriate compound for the method used for tuning?			X				
		Were ion abundance data within the method-required QC limits?			X				
S4	O	<b>Internal standards (IS):</b>							
		Were IS area counts and retention times within the method-required QC limits?	X						
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>							
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X						
		Were data associated with manual integrations flagged on the raw data?	X						
S6	O	<b>Dual column confirmation</b>							
		Did dual column confirmation results meet the method-required QC?	X						
S7	O	<b>Tentatively identified compounds (TICs):</b>							
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X				
S8	I	<b>Interference Check Sample (ICS) results:</b>							
		Were percent recoveries within method QC limits?			X				
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>							
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X				
S10	OI	<b>Method detection limit (MDL) studies</b>							
		Was a MDL study performed for each reported analyte?	X						
		Is the MDL either adjusted or supported by the analysis of DCSs?	X						
S11	OI	<b>Proficiency test reports:</b>							
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X						
S12	OI	<b>Standards documentation</b>							
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X						
S13	OI	<b>Compound/analyte identification procedures</b>							
		Are the procedures for compound/analyte identification documented?	X						
S14	OI	<b>Demonstration of analyst competency (DOC)</b>							
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X						
		Is documentation of the analyst's competency up-to-date and on file?	X						
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>							
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X						
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>							
		Are laboratory SOPs current and on file for each method performed?	X						

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).
- 2 Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 3 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 4 NA = Not applicable.
- 5 NR = Not Reviewed.
- 6 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: ERA	Prep Batch Number(s): 157581 (Soil)-BTEX
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The a,a,a-trifluorotoluene surrogate recoveries on both columns and the bromofluorobenzene recovery on column SPB-624 in sample 318054-2 were outside acceptance limits due to matrix interference.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)



Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: ERA			Prep Batch Number(s): 157626 (Water)-BTEx				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			2
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
R7	OI	Was the LCSD RPD within QC limits?			X		
		<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	3
R8	OI	Were MS/MSD RPDs within laboratory QC limits?				X	3
		<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
R9	OI	Were RPDs or relative standard deviations within the laboratory QC limits?			X		
		<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
R10	OI	Are unadjusted MQLs included in the laboratory data package?	X				
		<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston		LRC Date: 06/26/06					
Project Name: 9003 N. MAIN		Laboratory Job Number: 318054					
Reviewer Name: ERA		Prep Batch Number(s): 157626 (Water)-BTEX					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?		X			4
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).

2 Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

3 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

4 NA = Not applicable.

5 NR = Not Reviewed.

6 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: ERA	Prep Batch Number(s): 157626 (Water)-BTEX
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The a,a,a-trifluorotoluene surrogate recoveries on both columns in sample 318054-4 were above acceptance limits due to matrix interference.
3	The laboratory selected another client's sample to perform as the MS/MSD.
4	The benzene RPD between the two columns in sample 318054-2 was >40%. Since anomalies were present, the lower of the two results was reported.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston				LRC Date: 06/26/06			
Project Name: 9003 N. MAIN				Laboratory Job Number: 318054			
Reviewer Name: JPS				Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde			
# <sup>1</sup>	A <sup>2</sup>	Description <sup>12</sup>	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	2
		Were MS/MSD RPDs within laboratory QC limits?				X	2
R8	OI	<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: JPS			Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

- Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).  
Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- NA = Not applicable.
- NR = Not Reviewed.
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: JPS	Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The laboratory selected another client's sample to perform as the MS/MSD.

ER# = Exception Report identification number (an Exception Report should be completed for an item if -  
 "NR" or "No" is checked on the LRC)

CHAIN OF CUSTODY RECORD

Customer Information				Project Information				Analysis/Method			
PO	WO	COMPANY	SEND REPORT TO	PROJECT NAME	LAB NUMBER	BILL TO	INVOICE ATTN	PROJECT NO.	LAB NO.	ANALYSIS	DATE
		ATC Associates, Inc.	Patrick Dworaczyn	99004031-5,6,10,11		ATC Associates, Inc.	Patrick Dworaczyn	9903 N. Main		A: 8021 BTEX B: TPH TY 1005 C: 8315 Formaldehyde	57216-2
ADDRESS				ADDRESS							
3928 Bluebonnet Drive				3928 Bluebonnet Drive							
CITY/STATE/ZIP				CITY/STATE/ZIP							
Stafford, TX 77477				Stafford, TX 77477							
PHONE				PHONE							
281-240-0154				281-240-0154							
FAX				FAX							
281-240-8909				281-240-8909							

SAMP NO.	SAMPLE DESCRIPTION	PRESERVE	F	SAMPLE MATRIX	SAMPLE DATE	SAMPLE TIME	# CONTAINER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
B-1	12-14			Soil	6-21-06	950																				
B-2	20-22			Soil		1100																				
B-3	20-22			Soil		1155																				
B-1				Water		1210																				
B-2				Water		1245																				
B-3				Water		100																				

Sampler:		Shipment Method: drop off		Airbill No.:		Required TurnAround: 5 Day!	
1. Relinquished By:	<i>[Signature]</i>	2. Relinquished By:	Date	3. Relinquished By:	Date	3. Relinquished By:	Date
			6-21-06				
Company Name:	ATC	Company Name:	Time	Company Name:	Time	Company Name:	Time
			1331				
1. Received By:	<i>[Signature]</i>	2. Received By:	Date	3. Received By:	Date	3. Received By:	Date
			6-21-06				
Company Name:	STL	Company Name:	Time	Company Name:	Time	Company Name:	Time
			1331				

318054

rpjsckl		Job Sample Receipt Checklist Report		V2
Job Number.: 318054	Location.: 57216	Check List Number.: 1	Description.:	
Customer Job ID.....:		Job Check List Date.: 06/21/2006	Date of the Report...: 06/21/2006	
Project Number.: 99004031	Project Description.: TRRP Project		Project Manager.....: daj1	
Customer.....: ATC Associates, Inc.	Contact.: Patrick Dworaczyk			
Questions ?	(Y/N)	Comments		
Chain of Custody Received?.....	Y			
...If "yes", completed properly?.....	Y			
Custody seal on shipping container?.....	N			
...If "yes", custody seal intact?.....				
Custody seals on sample containers?.....	N			
...If "yes", custody seal intact?.....				
Samples chilled?.....	N	see src		
Temperature of cooler acceptable? (4 deg C +/- 2). N	18.6			
...If "no", is sample an air matrix?(no temp req.) N				
Thermometer ID.....	Y	437		
Samples received intact (good condition)?.....	Y			
Volatile samples acceptable? (no headspace).....	Y			
Correct containers used?.....	Y			
Adequate sample volume provided?.....	Y			
Samples preserved correctly?.....	Y			
Samples received within holding-time?.....	Y	y		
Agreement between CDC and sample labels?.....	Y			
Radioactivity at or below background levels?.....	Y			
Additional.....				
Comments.....				
Sample Custodian Signature/Date.....	Y	jac		

J1  
 b-21-b



# STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ATE CARRIER/DRIVER NAME: Client

PROJECT: \_\_\_\_\_ UNPACKED BY: \_\_\_\_\_

DATE RECEIVED: \_\_\_\_\_ UNPACKED STAMP: \_\_\_\_\_

TOTAL # COOLERS RECEIVED: \_\_\_\_\_

## COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Each Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
Gray/White	Y	C		18.6	437	N	Ch. 71 in progress
		B					
		C					
		B					
		C					
		B					

C = COOLER B = BOTTLES

COOLER(S) SCREENED FOR RADIATION? Yes \_\_\_ No \_\_\_ IF TEMP BLK N, HOW WAS TEMP TAKEN: \_\_\_\_\_

SHORT HOLD / RUSH SAMPLES (include department delivered to and time delivered)

\*\*\*\*\*

## SPECIFIC PROJECT INFORMATION

VOLATILE HEADSPACE ACCEPTABLE? Yes \_\_\_ No \_\_\_ NA \_\_\_  
(If ANY headspace is present, list details in INCONSISTENCIES section)

JOB NUMBER: \_\_\_\_\_  
Marked As Preserved? Yes \_\_\_ No \_\_\_  
Number of VOA Vials: 20

## pH OF WATER SAMPLES

PRESERVATION	# BOTTLES	CORRECT pH (Y/N)	If N, List sample ID and Corresponding pH
H2SO4 (<2)			
HNO3 (<2)			
HCL (<2) (Not VOA Vials)			
NaOH - Cyanide (>12)			
NaOH/Zn Acetate - Sulfide (>9)			
Other			

# OF NEAT BOTTLES: \_\_\_\_\_

# OF SOIL JARS: 6

INCONSISTENCIES - Place in Job Notes as well (CTRL F-12)

PERSON CONTACTED: \_\_\_\_\_ ACTION TAKEN \_\_\_\_\_ DATE: \_\_\_\_\_  
RESOLUTION \_\_\_\_\_

## NOTES

Project Manager \_\_\_\_\_

(Use back of sheet if necessary)

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: TCA Solutions, Inc. PROJECT: 9003 N MAIN ALLEN, PATTER DWORKINS

Customer Sample ID: B-1 12-14 Laboratory Sample ID: 318054-001

Date/Time Sampled .....: 6/21/2006 09:50

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	COARSE	RESULT	Q-FLAG	MDI	MOL	SOL	UNITS	ANALYST	Date/Time	Batch	MDI	ANALYST
<b>Method: SM-2540 G Mod., Soil</b>												
% Solids	NA	82.2					%		6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	17.8					%		6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>												
Benzene	71-43-2	5.60	U	4.60	10.0	5.60	ug/Kg		6/23/2006 20:50	157581	1.00	era
Ethylbenzene	100-41-4	7.42	U	6.10	10.0	7.42	ug/Kg		6/23/2006 20:50	157581	1.00	era
m,p-Xylene	MPXYLENE	15.4	U	12.7	20.0	15.4	ug/Kg		6/23/2006 20:50	157581	1.00	era
o-Xylene	95-47-6	7.86	U	6.46	10.0	7.86	ug/Kg		6/23/2006 20:50	157581	1.00	era
Toluene	108-88-3	7.74	U	6.36	10.0	7.74	ug/Kg		6/23/2006 20:50	157581	1.00	era
Xylenes (total)	1330-20-7	23.3	U	19.1	30.0	23.3	ug/Kg		6/23/2006 20:50	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>												
Formaldehyde	50-00-0	2520		2.87	100	69.9	ug/Kg		6/26/2006 11:56	157630	1.00	jps
<b>Method: SW846 8315, Water</b>												
Solid Phase Extraction	NA	Complete					N/A		6/23/2006 08:00	157516	1.00	enc

Form I

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: AIC Associates, Inc.

PROJECT: 9003 N MAIN

ALVIN, PAUL D. Director

Customer Sample ID: B-1 12-14 Laboratory Sample ID: 318054-001

Date/Time Sampled .....: 6/21/2006 09:50

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	RESULT	UNIT	SOIL	NOI	MDL	DATE/TIME	BATCH	D.F. ANALYSIS
<b>Method: TNRCC 1005, Soil</b>								
Petroleum Hydrocarbons C12 - C28	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465
Petroleum Hydrocarbons C28 - C35	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465
Petroleum Hydrocarbons C6 - C12	6.57	U	5.40	50.0	6.57	mg/Kg	6/22/2006 20:38	157465
Petroleum Hydrocarbons C6 - C35	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465
<b>Method: TNRCC TX-1005, Soil</b>								
TNRCC 1005 Extraction	Complete					N/A	6/21/2006 16:00	157296
								1vp

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC ASSOCIATES INC. PROJECT: 9003 N MAIN ANALYST: Patrick Dvoroznyk

Customer Sample ID: B-2 20-22 Laboratory Sample ID: 318054-002

Date/Time Sampled .....: 6/21/2006 11:00

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CONC	RESULT	Q FLAG	MDL	MOE	SOI	UNITS	ANALYST	Date/Time	Batch	D.F.	ANALYST
<b>Method: SM-2540 G Mod., Soil</b>												
% Solids	NA	85.2					%		6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	14.8					%		6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>												
Benzene	71-43-2	72.0	I	4.60	10.0	5.40	ug/Kg		6/23/2006 21:30	157581	1.00	era
Ethylbenzene	100-41-4	785		6.10	10.0	7.16	ug/Kg		6/23/2006 21:30	157581	1.00	era
m,p-Xylene	MPXYLENE	1450		12.7	20.0	14.9	ug/Kg		6/23/2006 21:30	157581	1.00	era
o-Xylene	95-47-6	512		6.46	10.0	7.58	ug/Kg		6/23/2006 21:30	157581	1.00	era
Toluene	108-88-3	155		6.36	10.0	7.46	ug/Kg		6/23/2006 21:30	157581	1.00	era
Xylenes (total)	1330-20-7	1970		19.1	30.0	22.5	ug/Kg		6/23/2006 21:30	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>												
Formaldehyde	50-00-0	575		2.87	100	67.3	ug/Kg		6/26/2006 12:12	157630	1.00	jps
<b>Method: SW846 8315, Water</b>												
Solid Phase Extraction	NA	Complete					N/A		6/23/2006 08:00	157516	1.00	enc

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC Associates, Inc. PROJECT: 9408 N MAPS ATTN: Patrick Dworaczek

Customer Sample ID: B-2 20-22

Laboratory Sample ID: 318054-002

Date/Time Sampled .....: 6/21/2006 11:00

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	COAST	RESULT	Q FLAG	MBL	MOL	SOIL	UNITS	Analysis Date/Time	Batch	DIF	ANALYST
<b>Method: TNRCC 1005, Soil</b>											
Petroleum Hydrocarbons C12 - C28	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	6.32	U	5.40	50.0	6.32	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
<b>Method: TNRCC TX-1005, Soil</b>											
TNRCC 1005 Extraction	NA	Complete					N/A	6/21/2006 16:00	157296	1.00	lvp

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

ALVIN PATRICK DWORKIN

PROJECT 9003N MAIN

Customer Sample ID: B-3 20-22 Laboratory Sample ID: 318054-003

Date/Time Sampled .....: 6/21/2006 11:55

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST/ANALYSIS	TEST CASE	RESULT	FLAG	MDL	MOL	SOIL	UNITS	Analysis Date/Time	Batch	D.P.	Analysis
<b>Method: SM-2540 G Mod., Soil</b>											
% Solids	NA	85.3					%	6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	14.7					%	6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>											
Benzene	71-43-2	5.39	U	4.60	10.0	5.39	ug/Kg	6/23/2006 22:30	157581	1.00	era
Ethylbenzene	100-41-4	7.15	U	6.10	10.0	7.15	ug/Kg	6/23/2006 22:30	157581	1.00	era
m,p-Xylene	MPXYLENE	14.9	U	12.7	20.0	14.9	ug/Kg	6/23/2006 22:30	157581	1.00	era
o-Xylene	95-47-6	7.57	U	6.46	10.0	7.57	ug/Kg	6/23/2006 22:30	157581	1.00	era
Toluene	108-88-3	7.45	U	6.36	10.0	7.45	ug/Kg	6/23/2006 22:30	157581	1.00	era
Xylenes (total)	1330-20-7	22.4	U	19.1	30.0	22.4	ug/Kg	6/23/2006 22:30	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>											
Formaldehyde	50-00-0	357		2.87	100	67.3	ug/Kg	6/26/2006 12:27	157630	1.00	jps
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

Customer: ALPINE, Patrick Dvoratzky

PROJECT: 9003 N MAIN

Customer Sample ID: B-3 20-22 Laboratory Sample ID: 318054-003

Date/Time Sampled .....: 6/21/2006 11:55

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

Method	LOC	RESULT	FLAG	MDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	D.T. Analysis
<b>Method: TNRCC 1005, Soil</b>										
Petroleum Hydrocarbons C12 - C28	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C28 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C6 - C12	NA	6.33	U	5.40	50.0	6.33	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C6 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
<b>Method: TNRCC TX-1005, Soil</b>										
TNRCC 1005 Extraction	NA	Complete					N/A	6/21/2006 16:00	157296	lvp

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: STI Associates Inc. PROJECT: 9103 N MAIN ANALYST: Patrick Dvoracek

Customer Sample ID: B-1

Laboratory Sample ID: 318054-004

Date/Time Sampled .....: 6/21/2006 12:10

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CASE	RESULT	FLAG	NDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	D.P.	Analysis
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	25.6		0.170	0.500	0.170	ug/L	6/26/2006 10:20	157626	1.00	era
Ethylbenzene	100-41-4	131		0.230	0.500	0.230	ug/L	6/26/2006 10:20	157626	1.00	era
m,p-Xylene	MPXYLENE	297		0.370	1.00	0.370	ug/L	6/26/2006 10:20	157626	1.00	era
o-Xylene	95-47-6	99.9		0.190	0.500	0.190	ug/L	6/26/2006 10:20	157626	1.00	era
Toluene	108-88-3	7.05		0.190	0.500	0.190	ug/L	6/26/2006 10:20	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	27.6		2.87	5.00	3.38	ug/L	6/26/2006 12:58	157630	1.00	jps
<b>Method: TNRRCC1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATEK ASSOCIATES, INC. PROJECT: 9H03N-MAIN ANALYST: PATRICK DOWOLNYC

Customer Sample ID: B-1 Laboratory Sample ID: 318054-004

Date/Time Sampled .....: 6/21/2006 12:10

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	FLG	GC/MS	RESULT	FLAG	MDL	MOI	SOI	UNITS	Analysis Date/Time	Batch	Dr. Analyst
<b>Method: TNRCC-TX-1005, Water</b>											
TNRCC 1005 Extraction	NA		Complete					N/A	6/22/2006 14:30	157449	lvp

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC Associates Inc. PROJECT: 9103-N-MAIN ANALYST: Patrick Dvoracek

Customer Sample ID: B-2 Laboratory Sample ID: 318054-005

Date/Time Sampled .....: 6/21/2006 12:45

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CAS#	RESULT	FLAG	MDL	UMOL	SOI	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	0.170	U	0.170	0.500	0.170	ug/L	6/26/2006 10:40	157626	1.00	era
Ethylbenzene	100-41-4	0.670		0.230	0.500	0.230	ug/L	6/26/2006 10:40	157626	1.00	era
m,p-Xylene	MPXYLENE	1.81		0.370	1.00	0.370	ug/L	6/26/2006 10:40	157626	1.00	era
o-Xylene	95-47-6	0.560		0.190	0.500	0.190	ug/L	6/26/2006 10:40	157626	1.00	era
Toluene	108-88-3	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 10:40	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	46.4		2.87	5.00	3.38	ug/L	6/26/2006 13:13	157630	1.00	jps
<b>Method: TNRCC 1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATL Associates, Inc. PROJECT: 9002 N MAIN STREET, FAIRFAX, VA 22031 ANALYST: PAUL DWORZAK

Customer Sample ID: B-2 Laboratory Sample ID: 318054-005  
Date/Time Sampled .....: 6/21/2006 12:45 Sample Matrix .....: Water  
Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	LOAST	RESULTS	DIAG	MDI	MOL	SOIL	RESULTS	ANALYST	DATE/TIME	BATCH	DEF	ANALYST
Method: TNRCC TX-1005, Water												
TNRCC 1005 Extraction	NA	Complete					N/A		6/22/2006 14:30	157449	1.00	lvj

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CHS OVERSIC Associates, Inc.

PROJECT: 900EN MAIN

APPROX: Patrick Dwyer

Customer Sample ID: B-3 Laboratory Sample ID: 318054-006

Date/Time Sampled .....: 6/21/2006 13:00

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CAS#	RESULT	Q FLAG	MDL	NOI	SOL	UNITS	Analysis Date/Time	Batch	D.F.	ANALYST
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	0.170	U	0.170	0.500	0.170	ug/L	6/26/2006 11:57	157626	1.00	era
Ethylbenzene	100-41-4	0.230	U	0.230	0.500	0.230	ug/L	6/26/2006 11:57	157626	1.00	era
m,p-Xylene	MPXYLENE	0.370	U	0.370	1.00	0.370	ug/L	6/26/2006 11:57	157626	1.00	era
o-Xylene	95-47-6	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 11:57	157626	1.00	era
Toluene	108-88-3	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 11:57	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	9.80		2.87	5.00	3.54	ug/L	6/26/2006 13:29	157630	1.00	jps
<b>Method: TNRCC 1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: AIC Associates, Inc. PROJECT: 9003 N MAIN ADJUT: Patrick Dvoraczek

Customer Sample ID: B-3

Laboratory Sample ID: 318054-006

Date/Time Sampled .....: 6/21/2006 13:00

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	LOAS	RESULT	FLAG	MDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	ID	Analysis
<b>Method: TNRCC TX-1005, Water</b>											
TNRCC 1005 Extraction	NA	Complete					N/A	6/22/2006 14:30	157449	1.00	Ivp



# STL

QUALITY CONTROL RESULTS		
Job Number.: 318054	Report Date.: 07/10/2006	
CUSTOMER: ATC Associates, Inc.	PROJECT: 9003 N. MAIN	ATTN: Patrick Dworaczyk

Test Method.....: SM-2540 G Mod.	Analyst....: sch
Method Description.: Moisture (Total + Fixed Solids, Ash)	Test Code.: %SOLID
Parameter.....: % Solids	Units.....: %
	Batch(s)....: 157440

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
DU	318054-3		85.8368			85.3351	0.6	10.0		06/22/2006	1630
DU	318174-6		83.8722			83.3475	0.6	10.0		06/22/2006	1630
DU	318107-4		98.3661			98.3314	0.0	10.0		06/22/2006	1630
DU	318174-16		85.3161			85.0272	0.3	10.0		06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
DU	318100-8		79.4863			78.5088	1.2	10.0		06/22/2006	1630
DU	318146-1		15.6110			15.7773	1.1	10.0		06/22/2006	1630

Test Method.....: SM-2540 G Mod.	Analyst....: sch
Method Description.: Moisture (Total + Fixed Solids, Ash)	Test Code.: MOIST
Parameter.....: Moisture	Units.....: %
	Batch(s)....: 157440

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
DU	318174-16		14.6839			14.9728	1.9	10.0		06/22/2006	1630
DU	318174-6		16.1278			16.6525	3.2	10.0		06/22/2006	1630
DU	318100-8		20.5137			21.4912	4.7	10.0		06/22/2006	1630
DU	318107-4		1.6339			1.6686	2.1	10.0		06/22/2006	1630
DU	318054-3		14.1632			14.6649	3.5	10.0		06/22/2006	1630
DU	318146-1		84.3890			84.2227	0.2	10.0		06/22/2006	1630



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN: Patrick Dworaczyk		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 80218	Units.....: ug/L	Analyst....: era
Method Description.: GC Volatile Organics	Batch(s)....: 157581 157626	

LCS	Laboratory Control Sample	BXS061206D	157581-1		06/23/2006	1709
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	46.6816		50.000000		93.4	61-125	
Benzene, Soil	52.0285		50.000000		104.1	69-133	
Toluene, Soil	52.1341		50.000000		104.3	70-134	
Ethylbenzene, Soil	52.0014		50.000000		104.0	71-139	
m,p-Xylene, Soil	109.893		100.000000		109.9	72-136	
o-Xylene, Soil	55.4779		50.000000		111.0	70-131	
Xylenes (total), Soil	166.0887		150.000000		110.7	70-130	
Total BTEX, Soil	322.2527		300.000000		107.4	70-130	
Tert-Butyl Methyl Ether Column B, Soil	45.1083		50.000000		90.2	61-125	
Benzene Column B, Soil	49.6298		50.000000		99.3	69-133	
Toluene Column B, Soil	51.3092		50.000000		102.6	70-134	
Ethylbenzene Column B, Soil	51.3521		50.000000		102.7	71-139	
m,p-Xylene Column B, Soil	104.727		100.000000		104.7	72-136	
o-Xylene Column B, Soil	56.1957		50.000000		112.4	70-131	

MB	Method Blank		157581-1		06/23/2006	1730
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	ND						
Benzene, Soil	ND						
Toluene, Soil	ND						
Ethylbenzene, Soil	ND						
m,p-Xylene, Soil	ND						
o-Xylene, Soil	ND						
Xylenes (total), Soil	0.0000						
Total BTEX, Soil	0.0000						
Tert-Butyl Methyl Ether Column B, Soil	ND						
Benzene Column B, Soil	ND						
Toluene Column B, Soil	ND						
Ethylbenzene Column B, Soil	ND						
m,p-Xylene Column B, Soil	ND						
o-Xylene Column B, Soil	ND						

SB	Spiked Blank	BXS061206C	157581-1		06/23/2006	1930
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	46.6336		50.000000	ND	93	30.0-130.0	
Benzene, Soil	50.6572		50.000000	ND	101	30.0-130.0	
Toluene, Soil	51.1370		50.000000	ND	102	30.0-130.0	
Ethylbenzene, Soil	50.0466		50.000000	ND	100	30.0-130.0	
m,p-Xylene, Soil	104.969		100.000000	ND	105	30.0-130.0	
o-Xylene, Soil	53.1742		50.000000	ND	106	30.0-130.0	
Xylenes (total), Soil	165.5110		150.000000	0.0000	110	30.0-130.0	
Total BTEX, Soil	320.0681		300.000000	0.0000	107	30.0-130.0	
Tert-Butyl Methyl Ether Column B, Soil	45.5755		50.000000	ND	91	30.0-130.0	
Benzene Column B, Soil	47.0232		50.000000	ND	94	30.0-130.0	

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

SB	Spiked Blank	BXS061206C	157581-1		06/23/2006	1930
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Toluene Column B, Soil	48.2890		50.000000	ND	97	30.0-130.0	
Ethylbenzene Column B, Soil	52.7629		50.000000	ND	106	30.0-130.0	
m,p-Xylene Column B, Soil	100.260		100.000000	ND	100	30.0-130.0	
o-Xylene Column B, Soil	60.5420		50.000000	ND	121	30.0-130.0	

SBD	Spiked Blank Duplicate	BXS061206C	157581-1		06/23/2006	1950
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	49.6281	46.6336	50.000000	ND	99.3 6.2	30-130 20	
Benzene, Soil	54.0149	50.6572	50.000000	ND	108.0 6.4	30-130 20	
Toluene, Soil	54.0783	51.1370	50.000000	ND	108.2 5.6	30-130 20	
Ethylbenzene, Soil	54.2439	50.0466	50.000000	ND	108.5 8.0	30-130 20	
m,p-Xylene, Soil	113.256	104.969	100.000000	ND	113.3 7.6	30-130 20	
o-Xylene, Soil	56.5970	53.1742	50.000000	ND	113.2 6.2	30-130 20	
Xylenes (total), Soil	169.8530	165.5110	150.000000	0.0000	113.2 2.6	30-130 20	
Total BTEX, Soil	332.1901	320.0681	300.000000	0.0000	110.7 3.7	30-130 20	
Tert-Butyl Methyl Ether Column B, Soil	48.6404	45.5755	50.000000	ND	97.3 6.5	30-130 20	
Benzene Column B, Soil	50.4222	47.0232	50.000000	ND	100.8 7.0	30-130 20	
Toluene Column B, Soil	51.9796	48.2890	50.000000	ND	104.0 7.4	30-130 20	
Ethylbenzene Column B, Soil	53.2134	52.7629	50.000000	ND	106.4 0.9	30-130 20	
m,p-Xylene Column B, Soil	107.819	100.260	100.000000	ND	107.8 7.3	30-130 20	
o-Xylene Column B, Soil	55.7559	60.5420	50.000000	ND	111.5 8.2	30-130 20	

LCS	Laboratory Control Sample	BXS062106B	157626-1		06/26/2006	0729
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Water	49.1416		50.000000		98.3	76-123	
Benzene, Water	48.6675		50.000000		97.3	72-134	
Toluene, Water	49.1170		50.000000		98.2	76-131	
Ethylbenzene, Water	48.4982		50.000000		97.0	75-131	
m,p-Xylene, Water	99.1402		100.000000		99.1	75-130	
o-Xylene, Water	49.7578		50.000000		99.5	74-129	
Xylenes (total), Water	148.8980		150.000000		99.3	70-130	
Total BTEX, Water	295.1807		300.000000		98.4	70-130	
Tert-Butyl Methyl Ether Column B, Water	48.8600		50.000000		97.7	76-123	
Benzene Column B, Water	47.5087		50.000000		95.0	72-134	





# STL

QUALITY CONTROL RESULTS					
Job Number.: 318054			Report Date.: 07/10/2006		
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

LCS	Laboratory Control Sample	BXS062106B	157626-1		06/26/2006 0729
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Toluene Column B, Water	48.5180		50.000000		97.0	76-131	
Ethylbenzene Column B, Water	47.7200		50.000000		95.4	75-131	
m,p-Xylene Column B, Water	98.3282		100.000000		98.3	75-130	
o-Xylene Column B, Water	48.3311		50.000000		96.7	74-129	

MB	Method Blank		157626-1		06/26/2006 0749
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Water	ND						
Benzene, Water	ND						
Toluene, Water	ND						
Ethylbenzene, Water	ND						
m,p-Xylene, Water	ND						
o-Xylene, Water	ND						
Xylenes (total), Water	0.0000						
Total BTEX, Water	0.0000						
Tert-Butyl Methyl Ether Column B, Water	ND						
Benzene Column B, Water	ND						
Toluene Column B, Water	ND						
Ethylbenzene Column B, Water	ND						
m,p-Xylene Column B, Water	ND						
o-Xylene Column B, Water	ND						

MB	Method Blank		157626-1	20.000	06/26/2006 0819
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	ND						
Benzene, SPLP	ND						
Toluene, SPLP	ND						
Ethylbenzene, SPLP	ND						
m,p-Xylene, SPLP	ND						
o-Xylene, SPLP	ND						
Xylenes (total), SPLP	0.0000						
Total BTEX, SPLP	0.0000						
Tert-Butyl Methyl Ether Column B, SPLP	ND						
Benzene Column B, SPLP	ND						
Toluene Column B, SPLP	ND						
Ethylbenzene Column B, SPLP	ND						
m,p-Xylene Column B, SPLP	ND						
o-Xylene Column B, SPLP	ND						

MS	Matrix Spike	BXS062306B	317399-1	20.000	06/26/2006 0940
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	50.4870		50.000000	1.37053	98	70-130	
Benzene, SPLP	43.9578		50.000000	ND	88	70-130	
Toluene, SPLP	43.9321		50.000000	ND	88	70-130	
Ethylbenzene, SPLP	43.0510		50.000000	ND	86	70-130	



# STL

QUALITY CONTROL RESULTS					
Job Number.: 318054			Report Date.: 07/10/2006		
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

MS	Matrix Spike	BXS062306B	317399-1	20.000	06/26/2006 0940
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
m,p-Xylene, SPLP	89.7171		100.000000	ND	90	70-130	
o-Xylene, SPLP	44.1903		50.000000	ND	88	70-130	
Xylenes (total), SPLP	133.9074		150.000000	0.0000	89	70-130	
Total BTEX, SPLP	264.8483		300.000000	0.0000	88	70-130	
Tert-Butyl Methyl Ether Column B, SPLP	50.6467		50.000000	1.78440	98	70-130	
Benzene Column B, SPLP	42.8537		50.000000	ND	86	70-130	
Toluene Column B, SPLP	42.8234		50.000000	ND	86	70-130	
Ethylbenzene Column B, SPLP	42.4284		50.000000	ND	85	70-130	
m,p-Xylene Column B, SPLP	87.2334		100.000000	ND	87	70-130	
o-Xylene Column B, SPLP	42.8149		50.000000	ND	86	70-130	

MSD	Matrix Spike Duplicate	BXS062306B	317399-1	20.000	06/26/2006 1000
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	52.0804	50.4870	50.000000	1.37053	101.4	70-130	
					3.2	20	
Benzene, SPLP	44.1746	43.9578	50.000000	ND	88.3	70-130	
					0.5	20	
Toluene, SPLP	43.9849	43.9321	50.000000	ND	88.0	70-130	
					0.1	20	
Ethylbenzene, SPLP	43.3784	43.0510	50.000000	ND	86.8	70-130	
					0.8	20	
m,p-Xylene, SPLP	90.1354	89.7171	100.000000	ND	90.1	70-130	
					0.5	20	
o-Xylene, SPLP	44.5674	44.1903	50.000000	ND	89.1	70-130	
					0.8	20	
Xylenes (total), SPLP	134.7028	133.9074	150.000000	0.0000	89.8	70-130	
					0.6	20	
Total BTEX, SPLP	266.2407	264.8483	300.000000	0.0000	88.7	70-130	
					0.5	20	
Tert-Butyl Methyl Ether Column B, SPLP	52.1440	50.6467	50.000000	1.78440	100.7	70-130	
					3.0	20	
Benzene Column B, SPLP	42.8282	42.8537	50.000000	ND	85.7	70-130	
					0.1	20	
Toluene Column B, SPLP	42.7408	42.8234	50.000000	ND	85.5	70-130	
					0.2	20	
Ethylbenzene Column B, SPLP	42.3851	42.4284	50.000000	ND	84.8	70-130	
					0.1	20	
m,p-Xylene Column B, SPLP	87.2536	87.2334	100.000000	ND	87.3	70-130	
					0.0	20	
o-Xylene Column B, SPLP	42.9718	42.8149	50.000000	ND	85.9	70-130	
					0.4	20	



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: TNRC 1005	Units.....: mg/L	Analyst...: mep
Method Description.: Direct Analytical TPH Method TX 1005	Batch(s)....: 157402 157591	

LCD	Laboratory Control Sample Duplicate	GCL051906	157296-1		06/21/2006	2012
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	236.881	234.799	250.000000	ND	95 0.9	70-130 20	
Petroleum Hydrocarbons C12 - C28, Soil	275.306	281.051	250.000000	ND	110 2.1	70-130 20	
Petroleum Hydrocarbons C6 - C35, Soil	512.187	515.849	500.000000	ND	102 0.7	70-130 20	

LCS	Laboratory Control Sample	GCL051906	157296-1		06/21/2006	1938
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	234.799		250.000000	ND	93.9	70-130	
Petroleum Hydrocarbons C12 - C28, Soil	281.051		250.000000	ND	112.4	70-130	
Petroleum Hydrocarbons C6 - C35, Soil	515.849		500.000000	ND	103.2	70-130	

MB	Method Blank	GC061306	157296-1		06/21/2006	1905
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	ND						
Petroleum Hydrocarbons C12 - C28, Soil	ND						
Petroleum Hydrocarbons C28 - C35, Soil	ND						
Petroleum Hydrocarbons C6 - C35, Soil	ND						

MS	Matrix Spike	GCS061906	318024-2		06/21/2006	2151
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	232.221		250.000000	ND	93	70-130	
Petroleum Hydrocarbons C12 - C28, Soil	174.600		250.000000	173.813	0	70-130	A
Petroleum Hydrocarbons C6 - C35, Soil	406.821		500.000000	354.574	10	70-130	A

MSD	Matrix Spike Duplicate	GCS061906	318024-2		06/21/2006	2224
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	222.920	232.221	250.000000	ND	89 4.1	70-130 20.0	
Petroleum Hydrocarbons C12 - C28, Soil	184.975	174.600	250.000000	173.813	4 5.8	70-130 20.0	A
Petroleum Hydrocarbons C6 - C35, Soil	407.896	406.821	500.000000	354.574	11 0.3	70-130 20.0	A



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

LCD	Laboratory Control Sample Duplicate	GCL051906	157449-1		06/23/2006	1516
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	337.174	356.667	333.333333	ND	101 5.6	70-130 20	
Petroleum Hydrocarbons C12 - C28, Water	300.856	321.956	333.333333	ND	90 6.8	70-130 20	
Petroleum Hydrocarbons C6 - C35, Water	638.030	678.622	666.666667	ND	96 6.2	70-130 20	

LCS	Laboratory Control Sample	GCL051906	157449-1		06/23/2006	1443
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	356.667		333.333333	ND	107.0	70-130	
Petroleum Hydrocarbons C12 - C28, Water	321.956		333.333333	ND	96.6	70-130	
Petroleum Hydrocarbons C6 - C35, Water	678.622		666.666667	ND	101.8	70-130	

MB	Method Blank	GCS061306	157449-1		06/23/2006	1410
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	ND						
Petroleum Hydrocarbons C12 - C28, Water	ND						
Petroleum Hydrocarbons C28 - C35, Water	ND						
Petroleum Hydrocarbons C6 - C35, Water	ND						

SB	Spiked Blank	GCS061906	157449-1		06/23/2006	1549
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	369.036		333.333333	ND	110.7	70-130	
Petroleum Hydrocarbons C12 - C28, Water	387.017		333.333333	ND	116.1	70-130	
Petroleum Hydrocarbons C6 - C35, Water	756.053		666.666667	ND	113.4	70-130	

SBD	Spiked Blank Duplicate	GCS061906	157449-1		06/23/2006	1623
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	345.353	369.036	333.333333	ND	103.6 6.6	70-130 20	
Petroleum Hydrocarbons C12 - C28, Water	316.809	387.017	333.333333	ND	95.0 20.0	70-130 20	
Petroleum Hydrocarbons C6 - C35, Water	662.162	756.053	666.666667	ND	99.3 13.2	70-130 20	



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN			ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8315	Units.....: ug/L	Analyst....: jps
Method Description.: Formaldehyde by HPLC	Batch(s)....: 157630	

LCS	Laboratory Control Sample	LC050106	157516		06/26/2006	1024
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Water	1069.64		10000.		107.0	39-153	

MB	Method Blank		157516		06/26/2006	1009
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Water	ND						

MS	Matrix Spike	LC050206	318178-1		06/26/2006	1055
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Liquid	991.05		10000.	29.92	96	39-153	

MSD	Matrix Spike Duplicate	LC050206	318178-1		06/26/2006	1110
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Liquid	904.06	991.05	10000.	29.92	87.4 9.5	70-130 20	



# STL

## SURROGATE RECOVERIES REPORT

Job Number.: 318054

Report Date.: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworczyk

Method.....: GC Volatile Organics  
Batch(s).....: 157626Method Code...: 8021  
Test Matrix...: WaterPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157626-	1	LCS	06/26/2006	107.2	108.0	105.3	107.7
157626-	1	MB	06/26/2006	116.0	115.1	111.9	113.7
318054-	4	B-1	06/26/2006	185.8A	142.2A	107.7	98.2
318054-	5	B-2	06/26/2006	117.5	116.0	113.7	111.6
318054-	6	B-3	06/26/2006	117.0	117.0	112.2	116.5

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	70 - 135
ATFTB	a,a,a-Trifluorotoluene Column B	70 - 135
BFB	BFB (Surrogate)	64 - 136
BFBB	BFB (Surrogate) Column B	64 - 136

Method.....: GC Volatile Organics  
Batch(s).....: 157626Method Code...: 8021  
Test Matrix...: SPLPPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157626-	1	MB	06/26/2006	119.7	115.4	111.6	114.0
317399-	1	MS BA1R 4'	06/26/2006	114.8	115.2	109.7	111.6
317399-	1	MSD BA1R 4'	06/26/2006	114.8	115.0	111.0	112.3

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	70 - 135
ATFTB	a,a,a-Trifluorotoluene Column B	70 - 135
BFB	BFB (Surrogate)	64 - 136
BFBB	BFB (Surrogate) Column B	64 - 136

Method.....: GC Volatile Organics  
Batch(s).....: 157581Method Code...: 8021  
Test Matrix...: SoilPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157581-	1	LCS	06/23/2006	104.0	104.1	107.2	102.3
157581-	1	MB	06/23/2006	111.3	113.3	106.2	106.0
157581-	1	SB	06/23/2006	103.6	106.8	93.8	103.4
157581-	1	SBD	06/23/2006	106.9	108.7	110.7	106.9
318054-	1	B-1 12-14	06/23/2006	94.6	96.3	92.0	97.5
318054-	2	B-2 20-22	06/23/2006	153.3A	183.1A	15.7A	103.4
318054-	3	B-3 20-22	06/23/2006	86.1	86.0	85.0	91.3

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	50 - 150
ATFTB	a,a,a-Trifluorotoluene Column B	50 - 150
BFB	BFB (Surrogate)	50 - 150
BFBB	BFB (Surrogate) Column B	50 - 150



# STL

## SURROGATE RECOVERIES REPORT

Job Number.: 318054

Report Date.: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworaczyk

Method.....: Direct Analytical TPH Method TX 1005  
Batch(s).....: 157402 157465Method Code...: TX1005  
Test Matrix...: SoilPrep Batch....: 157296  
Equipment Code: EXTGC12

Lab ID	DT	Sample ID	Date	OTERPH
157296-	1	LCD	06/21/2006	93.34
157296-	1	LCS	06/21/2006	94.02
157296-	1	MB	06/21/2006	89.50
318024-	2	MS EPO-45-1-(5'-6')	06/21/2006	85.43
318024-	2	MSD EPO-45-1-(5'-6')	06/21/2006	89.00
318054-	1	B-1 12-14	06/22/2006	95.08
318054-	2	B-2 20-22	06/22/2006	93.28
318054-	3	B-3 20-22	06/22/2006	91.91

Test	Test Description	Limits
OTERPH	o-Terphenyl	70 - 130

Method.....: Direct Analytical TPH Method TX 1005  
Batch(s).....: 157591Method Code...: TX1005  
Test Matrix...: WaterPrep Batch....: 157449  
Equipment Code: EXTGC12

Lab ID	DT	Sample ID	Date	OTERPH
157449-	1	LCD	06/23/2006	96.46
157449-	1	LCS	06/23/2006	102.3
157449-	1	MB	06/23/2006	101.4
157449-	1	SB	06/23/2006	116.6
157449-	1	SBD	06/23/2006	104.9
318054-	4	B-1	06/23/2006	102.8
318054-	5	B-2	06/23/2006	101.0
318054-	6	B-3	06/24/2006	107.3

Test	Test Description	Limits
OTERPH	o-Terphenyl	70 - 130

## QUALITY ASSURANCE METHODS

## REFERENCES AND NOTES

Report Date: 07/10/2006

## REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 3) According to 40CFR Part 136.3, pH, Chlorine Residual, and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field, (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.
- 4) For all USACE projects, the QC limits are based on "mean +/- 2 sigma", which are the warning limits.

## General Information:

- Cresylic Acid is the combination of o,m and p-Cresol. The combination is reported as the final result.
- m-Cresol and p-Cresol co-elute. The result of the two is reported as either m&p-cresol or as p-cresol.
- m-Xylene and p-Xylene co-elute. The result of the two is reported as m,p-Xylene.
- N-Nitrosodiphenylamine decomposes in the gas chromatograph inlet forming dipheylamine and, consequently, may be detected as diphenylamine.
- Methylene Chloride and Acetone are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- Trimethylsilyl(Diazomethane) is used to esterify acid herbicides in Method SW-846 8151A.
- For Inorganic analyses, duplicate QC limits are determined as follows: If the sample result is less than or equal to 5 times the reporting limit, the RPD limit is equal to the reporting limit. If the sample result is greater than 5 times the reporting limit, the RPD limit is the method defined RPD.
- For TRRP reports, the header on the column RL is equivalent to a MQL/PQL.

## Explanation of Qualifiers:

- U - This qualifier indicates that the analyte was analyzed but not detected.
- J - (Organics only) This qualifier indicates that the analyte is an estimated value between the RL and the MDL.
- B - (Inorganics only) This Qualifier indicates that the analyte is an estimated value between the RL and the MDL.
- N - (Organics only) This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as "chlorinated hydrocarbon", the "N" flag is not used.

## Explanation of General QC Outliers:

- A - Matrix interference present in sample.
- a - MS/MSD analyses yielded comparable poor recoveries, indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recoveries.
- b - Target analyte was found in the method blank.
- M - QC sample analysis yielded recoveries outside QC acceptance criteria. This sample was reanalyzed.
- L - LCS analysis yielded high recoveries, indicating a potential high bias. No target analytes were observed above the RL in the associated samples.
- G - Marginal outlier within 1% of acceptance criteria.
- r - RPD value is outside method acceptance criteria.
- C - Poor RPD values observed due to the non-homogenous nature of the sample.
- O - Sample required dilution due to matrix interference.
- D - Sample reported from a dilution.
- d - Spike and/or surrogate diluted.
- P - The recovery of this analyte is outside default QC limits. The data is accepted and will be used to calculate in-house statistical limits.
- E - The reported concentration exceeds the instrument calibration.
- F - The analyte is outside QC limits. The sample data is accepted since this analyte is not reported in associated samples.
- H - Continuing Calibration Verification (CCV) standard is not associated with the samples reported.



QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 07/10/2006

- q - See the subcontract final report for qualifier explanation.
- W - The MS/MSD recoveries are outside QC acceptance criteria because the amount spiked is much less than the amount found in the sample.
- K - High recovery will not affect the quality of reported results.
- Z - See case narrative.

Explanation of Organic QC Outliers:

- e - Method blank analysis yielded phthalate concentrations above the RL. Phthalates are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- S - Sample reanalyzed/reextracted due to poor surrogate recovery. Reanalysis confirmed original analysis indicating a possible matrix interference.
- T - Sample analysis yielded poor surrogate recovery.
- R - The RPD between the two GC columns is greater than 40% and no anomalies are present. The higher result is reported as per EPA Method 8000B.
- I - The RPD between the two GC columns is greater than 40% and anomalies are present. The lower of the two results has been reported.
- X - Gaseous compound. In-house QC limits are advisory.
- Y - Ketone compounds have poor purge efficiency. In-house QC limits are advisory.
- f - Surrogate not associated with reported analytes.

Explanation of Inorganic QC Outliers:

- Q - Method blank analysis yielded target analytes above the RL. Associated sample results are greater than 10 times the concentrations observed in the method blank.
- V - The RPD control limit for sample results less than 5 times the RL is +/- the RL value. Sample and duplicate results are within method acceptance criteria.
- e - Serial dilution failed due to matrix interference.
- g - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is greater than or equal to 0.995.
- s - BOD/cBOD seed value is not within method acceptance criteria. Due to the nature of the test method, the sample cannot be reanalyzed.
- l - BOD/cBOD LCS value is not within method acceptance criteria. Due to the nature of the test method, sample cannot be reanalyzed.
- N - Spiked sample recovery is not within control limits.
- n - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is less than 0.995.
- \* - Duplicate analysis is not within control limits.

Abbreviations:

- Batch - Designation given to identify a specific extraction, digestion, preparation, or analysis set.
- CCV - Continuing Calibration Verification
- CRA - Low level standard check - GFAA, Mercury
- CR1 - Low level standard check - ICP
- Dil Fac - Dilution Factor - Secondary dilution analysis
- DLFac - Detection Limit Factor
- DU - Duplicate
- EB - Extraction Blank (TCLP, SPLP, etc.)
- ICAL - Initial Calibration
- ICB - Initial Calibration Blank
- ICV - Initial Calibration Verification
- ISA - Interference Check Sample A - ICP
- ISB - Interference Check Sample B - ICP
- LCD - Laboratory Control Duplicate
- LCS - Laboratory Control Sample

## QUALITY ASSURANCE METHODS

## REFERENCES AND NOTES

Report Date: 07/10/2006

MB	- Method Blank
MD	- Method Duplicate
MDL	- Method Detection Limit
MQL	- Method Quantitation Limit (TRRP)
MS	- Matrix Spike
MSD	- Matrix Spike Duplicate
ND	- Not Detected
PB	- Preparation Blank
PREPF	- Preparation Factor
RL	- Reporting Limit
RPD	- Relative Percent Difference
RRF	- Relative Response Factor
RT	- Retention Time
SQL	- Sample Quantitation Limit (TRRP)
TIC	- Tentatively Identified Compound

## Method References:

- (1) EPA 600/4-79-020 Methods for the Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-94-111 Methods for the Determination of Metals in Environmental Samples, Supplement I, May 1994.
- (3) EPA SW846 Test Methods for Evaluating Solid Waste, Third Edition, September 1986; Update I July 1992; Update II, September 1994, Update IIA August 1993; Update IIB, January 1995; Update III, December 1996, Update IVA January 1998, Update IVB November 2000.
- (4) Standard Methods for the Examination of Water and Wastewater, 16th Edition (1985), 17th Edition (1989), 18th Edition (1992), 19th Edition (1995), 20th Edition (1998).
- (5) HACH Water Analysis Handbook 3rd Edition (1997).
- (6) Federal Register, July 1, 1990 (40 CFR Part 136 Appendix A).
- (7) Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, 2nd Edition, January 1997.
- (9) Diagnosis and Improvement of Saline and Alkali Soils, Agriculture Handbook No. 60, United States Department of Agriculture, 1954.

**LABORATORY CHRONICLE**

Job Number: 318054

Date: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworaczky

Lab ID: 318054-1	Client ID: B-1 12-14	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
	Data Package Validation	1	158535			07/10/2006 0000
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2038
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1156
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2050
	GC Volatiles Data Package Production	1				
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-2	Client ID: B-2 20-22	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2144
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1212
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2130
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-3	Client ID: B-3 20-22	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2217
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1227
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2230
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-4	Client ID: B-1	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/23/2006 2303
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1258
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1020
TNRCC TX-1005	TX-1005 Extraction Water	1	157449			06/22/2006 1430
Lab ID: 318054-5	Client ID: B-2	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/23/2006 2336
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1313
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1040
TNRCC TX-1005	TX-1005 Extraction Water	1	157449			06/22/2006 1430
Lab ID: 318054-6	Client ID: B-3	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/24/2006 0009
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1329
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1157



# STL

LABORATORY CHRONICLE	
Job Number: 318054	Date: 07/10/2006
CUSTOMER: ATC Associates, Inc.	PROJECT: 9003 N. MAIN
ATTN: Patrick Dworaczky	
Lab ID: 318054-6	Client ID: B-3
Method	Description
TNRCC TX-1005	TX-1005 Extraction Water
Date Recvd: 06/21/2006	Sample Date: 06/21/2006
RUN#	BATCH#
1	157449
PREP BT #(S)	DATE/TIME ANALYZED
	06/22/2006 1430
DILUTION	



**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**

**CITY OF HOUSTON  
9003 NORTH MAIN STREET  
HOUSTON, TX  
ATC PROJECT NO. 73.17331.0074**

**June 30, 2006**

**Prepared by:**

ATC Associates Inc.  
3928 Bluebonnet Drive  
Stafford, Texas 77477  
Telephone: (281) 240-0154  
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**Prepared for:**

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Patrick Dworaczyk, P.G., CAPM  
Project Manager

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Mark Smith, P.G., CAPM  
Senior Geologist



**ASBESTOS AND LEAD-BASED PAINT  
SURVEY**

**City of Houston  
9003 North Main Street  
Houston, Texas**

**ATC Project Number 73.17331.0074**

**June 2006**

**PREPARED FOR:**

**City of Houston  
P.O. Box 1562  
Houston, Texas 77251-1562  
Contract No. C50597**

**PREPARED BY:**

**ATC Associates Inc.  
3928 Bluebonnet Drive  
Stafford, Texas 77477**



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June 29, 2006

Mr. Gabriel Mussio  
Division Manager  
Energy and Environmental Management Division  
City of Houston  
Building Services Department  
900 Bagby, 2<sup>nd</sup> Floor  
Houston, TX 77002

**Re: Asbestos and Lead-Based Paint Survey  
City of Houston  
9003 North Main Street, Houston, Texas  
ATC Project No. 73.17331.0074  
Contract No. C50597**

Dear Mr. Mussio:

Enclosed is the asbestos and lead-based paint survey of the City of Houston property located at 9003 North Main Street in Houston, Texas.

Ms. Jennifer Boone of ATC performed the survey on June 28, 2006. The enclosed report describes the results of sampling and analysis and provides a homogeneous area report. All original laboratory reports and ATC's submittals are included as appendices.

We appreciate the opportunity to provide environmental consulting services to the City of Houston and look forward to assisting you with future consulting services. If you have any questions or need additional assistance, please call 281.240.0154.

Sincerely,  
**ATC Associates Inc.**

A handwritten signature in cursive script, reading 'Jennifer Boone'.

Jennifer L. Boone  
Sr. Environmental Scientist  
TDSHS IAC Lic. #10-5554

A handwritten signature in cursive script, reading 'C. McLain'.

Catherine G. McLain  
Industrial Hygiene Department Manager  
TDSHS IAC Lic. #10-5451



Environmental, Geotechnical and Materials Professionals

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## EXECUTIVE SUMMARY

ATC Associates Inc. (ATC) performed an asbestos and lead-based paint survey of the City of Houston property located at 9003 North Main Street in Houston, Texas. The scope of work included: review of previous documentation (if provided), inspecting and sampling for suspect Asbestos-Containing Building Materials (ACBM) and Lead-Based Paint Materials (LBPM), and identifying, quantifying and assessing confirmed ACBM and LBPM.

The vacant facility was formerly used as an office and storage facility by the Street Maintenance Department. The site contains a one-story office building with an attached warehouse area in the eastern section of the property, a metal warehouse building at the north end of the property, and a canopy covered truck wash area on the southwestern portion of the site. Building exteriors are generally metal siding except for three brick walls on the office building that face North Main Street. The buildings have corrugated metal roofs and concrete slab foundations. Interior finishes are composed of concrete block, plywood and wallboard walls, textured wallboard walls, 1' x 1' suspended ceiling tiles, 2' x 2' suspended ceiling tiles, 2' x 4' suspended ceiling tiles, 12" x 12" floor tiles, concrete floors and carpet. No interior suspect asbestos-containing materials were found in the Car Wash Building or the Warehouse Building.

ATC's Texas Department of State Health Services (TDSHS) Inspector Ms. Jennifer Boone (Asbestos License No. 10-5554, performed the survey on June 28, 2006. The exterior and roof of the buildings were not included in the scope of work.

### Asbestos Survey

Asbestos-containing material (ACM) is defined by the Texas Asbestos Health Protection Rules (TAHPR), March 2003, as materials or products that contain more than 1.0% of any kind or combination of asbestos, as determined by the Environmental Protection Agency (EPA) recommended methods as listed in EPA/600/R-93/116, July 1993 "Method for the Determination of Asbestos in Bulk Building Materials". This means any one material component of a structure or any layer of a material sample.

Using the guidelines set by TDSHS, samples of suspect ACBM were collected and sent under chain-of-custody to Hygeia Laboratories Inc. in Miami, Florida (TDSHS License No. 30-0230). The analytical results are summarized in the following report. Table 1, Summary of Suspected ACBM Bulk Samples lists materials sampled, sample locations, and sample results. Table 2, Summary of ACBM Assessment, lists confirmed ACBM, their location, estimated quantity, and hazard assessment.

Based on the results presented in Table 1, the following materials were identified through laboratory analysis as containing greater than 1% asbestos:

- Approximately 232 linear feet of gray interior window glazing located in Offices 6, 7, 8, and Restroom A.



Based on the results of the limited survey, ATC proposes the following options to the City of Houston:

- Prior to renovation, ACBM with the potential for disturbance must be properly abated and disposed of in compliance with the TDSHS TAHPR and National Standards for Hazardous Air Pollutants (NESHAP).
- If additional suspect ACBM other than those identified in this report are observed during renovation activities, appropriate samples should be collected and analyzed for asbestos content prior to disturbance.
- Prior to any demolition activities a thorough survey of roofing and exterior materials should be completed.

### **Limited Lead-Based Paint Survey**

Lead-based paint (LBP) is defined by the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, June 1995, revised 1997 as any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ) as measured by XRF or laboratory analysis; or in excess of 0.5 percent by weight (5,000 ppm) as measured by laboratory analysis. However, it should be noted that the Occupational Safety and Health Act (OSHA) lead construction standard, 29 CFR §1926.62, regulates workers involved in any activity whereby lead-containing materials could be disturbed resulting in airborne lead exposure. Therefore, the City of Houston standard calls for any material containing lead in amounts greater than 0.0 mg/kg requires an OSHA exposure assessment for the possible exposure to lead hazards.

Using the guidelines set by HUD, a protocol was developed for the limited lead-based paint survey. The survey began with a visual inspection and assessment of the condition of suspect LBPM. Paint chips were collected from materials randomly selected based on color, substrate and paint history. The collected samples were submitted for analysis to Hygeia Laboratories Inc. in New York, New York (AIHA Accreditation No. 100229).

Analytical results did show the presence of one painted materials meeting the HUD definition of LBPM in the tested locations. This material includes:

- Approximately 2,000 square feet of red primer paint on the structural steel in the Office Building which contains 0.66% lead by weight.

Analytical results showed one painted material identified as containing detectable concentrations of lead and is therefore subject to the OSHA requirements. This material includes:

- Approximately 5,000 square feet of off-white paint on the interior plywood walls and wood stairway in the warehouse area of the Office Building which contains 0.02% lead by weight.



Based on the analytical results, ATC makes the following recommendations:

- It is recommended contractors working with any painted materials at this site maintain compliance with the OSHA lead construction standard, 29 CFR §1926.2, during any construction and renovation activities impacting these materials. The OSHA lead construction standard, 29 CFR §1926.62, regulates workers involving any activity whereby lead-containing materials could be disturbed resulting in airborne lead exposure.
- Contractors working with the known LBPM must maintain compliance with the OSHA lead construction standard, 29 CFR 1926.62, during any construction and renovation activities impacting these materials.
- LBPM may be abated prior to demolition or renovation to ensure an environmentally safe work area, metal components removed and sent to a smelter that accepts lead containing materials, or encapsulated with layers of lead-free paint and monitored under an operations and maintenance plan.
- For demolition and disposal purposes under the federal Resource Conservation and Recovery Act (RCRA) the LBPM should be tested using toxicity characteristic leaching procedure (TCLP) to determine the hazardous waste classification.

## **1.0 OBSERVATIONS**

The vacant facility was formerly used as an office and storage facility by the Street Maintenance Department. The site contains a one-story office building with an attached warehouse area in the eastern section of the property, a metal warehouse building at the north end of the property, and a canopy covered truck wash area on the southwestern portion of the site. Building exteriors are generally metal siding except for three brick walls on the office building that face North Main Street. The buildings have corrugated metal roofs and concrete slab foundations. Interior finishes are composed of concrete block, plywood and wallboard walls, textured wallboard walls, 1' x 1' suspended ceiling tiles, 2' x 2' suspended ceiling tiles, 2' x 4' suspended ceiling tiles, 12" x 12" floor tiles, concrete floors and carpet. No interior suspect asbestos-containing materials were found in the Car Wash Building or the Warehouse Building.

## **2.0 STANDARDS AND GUIDELINES**

Below is a brief summary of applicable federal and state regulations for asbestos in building materials.

### **2.1 OSHA Asbestos in Construction Standard at 29 CFR § 1926.1101**

The OSHA Asbestos Standard regulates workers in construction, demolition, and maintenance who may be occupationally exposed to asbestos-containing products. Asbestos-related construction work involves any demolition or salvage of structures where asbestos is present; removal or encapsulation of materials containing asbestos; construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain asbestos; installation of products containing asbestos; asbestos spill/emergency cleanup; and transportation, disposal, storage, containment of and housekeeping activities involving asbestos or products containing asbestos, on the site or location at which construction activities are performed whereby the asbestos-containing material could be disturbed resulting in asbestos exposure.

The standard classifies different activities involving asbestos based on their potential for disturbance. It also states the employer shall sample the air in the worker's breathing zone to determine asbestos exposure. Permissible Exposure Limits (PEL) and Excursion Limits are established in the OSHA standard for comparison. The employer shall ensure that no employee is exposed to an airborne concentration of asbestos in excess of 0.1 fiber per cubic centimeter of air as an eight hour time-weighted average (TWA) or an airborne concentration of 1.0 fiber per cubic centimeter of air (1 f/cc) as averaged over a sampling period of 30 minutes. All employers of employees exposed to asbestos hazards must comply with applicable protective provisions to protect their employees. The standard designates approved work practices for dealing with asbestos, establishes air monitoring requirements, and sets requirements for appropriate respiratory protection.

## **2.2 EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61**

The NESHAP rules set a ten-day notification requirement for planned demolitions and renovations. Additionally, recordkeeping requirements were established for waste disposal. The rules categorize ACM based on the potential to release fibers.

## **2.3 Texas Asbestos Health Protection Rules (TAHPR) Title 25, Part 1, §295**

ACM is defined by the Texas Asbestos Health Protection Rules (TAHPR), March 2003, as materials or products that contain more than 1.0% of any kind or combination of asbestos, as determined by the EPA recommended methods as listed in EPA/600/R-93/116, July 1993 "Method for the Determination of Asbestos in Bulk Building Materials". This means any one material component of a structure or any layer of a material sample.

The TAHPR address the problem of limiting the exposure of an individual to asbestos fibers by regulating asbestos disturbance activities in buildings that afford public access or occupancy and in commercial buildings. These regulated activities apply to all persons disturbing, removing, encapsulating, or enclosing asbestos within public buildings for any purpose, including repair, renovation, dismantling, demolition, installations, or maintenance operations, or any activity that may involve the disturbance or removal of ACM whether intentional or unintentional. Also included are the qualifications for licensure of persons and requirements for compliance with these sections and all applicable standards of the United States Environmental Protection Agency and the United States Occupational Safety and Health Administration as adopted.

Below is a brief summary of applicable federal and state regulations for lead in paint.

## **2.4 United States Housing and Urban Development (HUD)**

LBP is defined by the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, June 1995, revised 1997 as any paint, varnish, shellac, or other coating that contains lead equal to or greater than 1.0 mg/cm<sup>2</sup> as measured by XRF or laboratory analysis; or in excess of 0.5 percent by weight (5,000 ppm, 5,000 mg/kg, or 5,000 µg/g) as measured by laboratory analysis.

## 2.5 OSHA Lead in Construction Standard at 29 CFR § 1926.62

The OSHA Lead Standard regulates workers in construction, demolition, and maintenance who may be occupationally exposed to lead-containing products. Lead-related construction work involves any construction, repair, painting, demolition, renovation, removal or encapsulation, alteration, installation of lead products, emergency cleanup, transportation, disposal, storage, containment, and maintenance work whereby the lead-containing material could be disturbed resulting in lead exposure.

The standard requires all employers to provide an exposure assessment for the possible exposure to lead hazards. One component of the mandatory exposure assessment involves sampling the air in the worker's breathing zone to determine lead exposure. Action Levels and Permissible Exposure Limits (AL and PEL) are established in the OSHA standard for comparison. All employers who may expose workers above the PEL of 50 micrograms per cubic meter of air ( $\mu\text{g}/\text{m}^3$ ) averaged over an eight hour period must develop a written compliance program prior to the start of each job. The standard addresses the circumstances under which employees must wear personal protective equipment. Employers must make available medical exams for workers as well as testing for blood lead levels.

Regarding tasks involving lead-containing materials, the employer must perform an employee exposure assessment and document that the employee performing the task is not exposed above the AL of  $30 \mu\text{g}/\text{m}^3$ , or the employer shall treat the employee as if the employee were exposed above the PEL ( $50 \mu\text{g}/\text{m}^3$ ).

## 3.0 SAMPLING PROCEDURES

### Suspected ACBM

The inspector followed the sampling procedure in accordance with TDSHS TAHPR.

Suspect materials, which are alike in appearance and application, were sampled as a homogeneous area. Suspect homogeneous areas are divided into three classifications: 1) Surfacing materials: spray-applied or troweled on material, 2) Thermal Systems Insulation: pipe, boiler, tank, or flue insulation, and 3) Miscellaneous: other suspect material, including floor tile, floor tile mastic, sheet vinyl flooring, ceiling tile and panel, insulation mastics, cove base mastic, window caulking/glazing, and exterior siding (transite).

Suspect materials sampled and analyzed should be considered homogeneous area if: 1) They exhibit similar physical characteristics, and 2) The application of the sampled material can be correlated to the application of unsampled material.

Representative sampling was based on: 1) Distribution of the suspect materials throughout the homogeneous area, 2) The suspect material's physical characteristics and application, and 3) Random sampling patterns determined for each homogeneous area.

The asbestos survey included the collection of thirty-four (34) bulk samples of suspect ACBM. Where more than one sample of a homogeneous area was collected, analysis was conducted on a "stop at first positive" basis. Ms. Jennifer Boone of ATC performed the field survey on June 28, 2006. The materials sampled, sample locations, and analytical results are included in Table 1, Summary of Suspected ACBM Bulk Samples, with the bulk sample analysis report included as Appendix B.

Suspect materials sampled during our survey included the following: wall texture and wallboard joint compound, wallboard walls, 1' x 1' suspended ceiling tiles and mastic, 2' x 2' suspended ceiling tiles, 2' x 4' suspended ceiling tiles, 12" x 12" floor tiles and carpet mastic. No interior suspect asbestos-containing materials were found in the Car Wash Building or the Warehouse Building.

### **Suspected LBPM**

The limited lead-based paint survey began with a visual inspection and assessment of the condition of suspect LBPM. Eight (8) paint chip samples were collected from materials randomly selected based on color, substrate and paint history. The collected samples were submitted for analysis to Hygeia Laboratories Inc. in New York, New York American Industrial Hygiene Association (AIHA) Accreditation No. 100229. The materials sampled, sample location, and analytical results are included in Table 3, Summary of Analysis of Paint for Lead Determination, with the bulk sample analysis report included as Appendix C.

## **4.0 ANALYTICAL PROCEDURES**

### **Suspected ACBM**

Collected suspected ACBM bulk samples were analyzed under polarized light microscopy (PLM) by Hygeia Laboratories Inc. in Miami, Florida, utilizing the Environmental Protection Agency's Method for the Detection of Asbestos in Bulk Insulation Samples, (EPA 600/R-93 July 1993), and the McCrone Research Institute's The Asbestos Particle Atlas as method references. ATC's laboratory is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP), participates in the NVLAP and AIHA Bulk Asbestos Sample Quality Assurance Programs, and is licensed to analyze bulk asbestos samples collected in the State of Texas.

### **Suspected LBPM**

Collected paint chips were analyzed by Hygeia Laboratories Inc. in New York, New York, utilizing the Environmental Protection Agency's Analytical Method 7420 and Digestion Method 3050. ATC's laboratory is accredited by the AIHA and certified under the Environmental Lead Laboratory Accreditation Program (ELLAP).

## **5.0 ANALYTICAL RESULTS**

### **Suspected ACBM**

Based on the results presented in Table 1, the following materials indicated the presence of asbestos in amounts greater than 1%:

- Approximately 232 linear feet of gray interior window glazing located in Offices 6, 7, 8, and Restroom A.

Due to the sometimes difficulty in analyzing non-friable or resinously bound materials, Hygeia Laboratories recommends that these types of materials, which were not found to contain asbestos, be analyzed using alternative methods of identification, such as Transmission Electron Microscopy.

The analytical results can be found in the attached Appendix C. Table 1, Summary of Analysis of Suspected ACBM Bulk Samples lists materials sampled, sample locations, and sample results. Table 2, Summary of ACBM Assessment lists confirmed ACBM, their locations, estimated quantities, and hazard assessment.

### **Suspected LBPM**

Based on the results presented in Table 3, the following materials indicated the presence of lead in amounts greater than 0.06%:

- Approximately 2,000 square feet of red primer paint on the structural steel in the Office Building contains 0.66% lead by weight.

The following materials indicated the presence of lead in amounts less than 0.06%:

- Approximately 5,000 square feet of off-white paint on the interior plywood walls and wood stairway in the warehouse area of the Office Building contains 0.02% lead by weight.

The analytical results can be found in the attached Appendix C. Table 3, Summary of Analysis of Paint for Lead Determination lists materials sampled, sample locations, and sample results. Table 4, Summary of LBPM Assessment lists confirmed LBPM, their locations, estimated quantities, and hazard assessment.

## **6.0 HAZARD CONDITION ASSESSMENT**

A condition assessment refers to the process where a material's potential to release fibers or dust particles into the air is evaluated. Fibers or dust may be released inadvertently by localized disturbance, as part of a material's aging process, or when acted upon by other factors such as air



movement, impact, or vibration. Assessing a material's potential for fiber or dust release (therefore, its associated hazard risk) is accomplished by evaluating associated factors.

The hazard condition assessments given are based on the City of Houston Asbestos Hazard Categorization (AHC) and Lead Hazard Categorization (LHC) lists. The hazard associated with any ACBM or LBPM may become more extensive over time. Each building use has the potential to contribute to a change in the potential health hazard. Tables 2 and 4 provide a hazard assessment for identified ACBM and LBPM in the buildings located at 9003 North Main Street in Houston, Texas.

## **7.0 QUANTITY ESTIMATES**

The following materials indicated the presence of asbestos in amounts greater than 1%:

- Approximately 232 linear feet of gray interior window glazing located in Offices 6, 7, 8, and Restroom A.

Analytical results did not show the presence of painted materials meeting the HUD definition of LBPM in any of the tested locations. However, one paint material was identified as containing detectable concentrations of lead and is therefore subject to the OSHA requirements. This material includes:

- Approximately 2,000 square feet of red primer paint on the structural steel in the Office Building contains 0.66% lead by weight.
- Approximately 5,000 square feet of off-white paint on the interior plywood walls and wood stairway in the warehouse area of the Office Building contains 0.02% lead by weight.

## **8.0 CONCLUSIONS AND RECOMMENDATIONS**

Based on the results of the survey, ATC proposes the following options to the City of Houston:

- Prior to renovation, ACBM with the potential for disturbance must be properly abated and disposed of in compliance with the TDSHS TAHPR and NESHP.
- If additional suspect ACBM other than those identified in this report are observed during renovation activities, appropriate samples should be collected and analyzed for asbestos content prior to disturbance.
- Prior to any demolition activities a thorough survey of roofing materials and inaccessible materials should be completed.

It should be noted that the EPA has not prohibited the manufacture of non-friable asbestos-containing building materials, such as vinyl floorings, mastics, and roofing materials. As a result, any future replacement materials should be checked for the presence of asbestos.

Based on the analytical results for the collected paint chip samples, ATC makes the following recommendations:

- It is recommended contractors that work with any painted materials at this site maintain compliance with the OSHA lead construction standard, 29 CFR §1926.2, during any construction and renovation activities impacting these materials. OSHA lead construction standard, 29 CFR §1926.62, regulates workers involving any activity whereby lead-containing materials could be disturbed resulting in airborne lead exposure. Therefore, any material containing lead in amounts greater than 0.0 mg/cm<sup>2</sup> should require an exposure assessment for the possible exposure to lead hazards.
- Contractors working with the known LBPM must maintain compliance with the OSHA lead construction standard, 29 CFR 1926.62, during any construction and renovation activities impacting these materials.
- LBPM may be abated prior to demolition or renovation to ensure an environmentally safe work area, metal components removed and sent to a smelter that accepts lead containing materials, or encapsulated with layers of lead-free paint and monitored under an operations and maintenance plan.
- For demolition and disposal purposes under the federal Resource Conservation and Recovery Act (RCRA) the LBPM should be tested using toxicity characteristic leaching procedure (TCLP) to determine the hazardous waste classification.

## 9.0 LIMITATIONS

This report has been prepared to assist the City of Houston in evaluating the ACBM and LBPM in the City of Houston facility located at 9003 North Main Street in Houston, Texas. Our objective was to perform our work with care, exercising the customary skill and competence of consulting professionals in the relevant disciplines in this region. The conclusions presented in this report are professional opinions based solely upon visual observations of the site, at the time of our investigation, and the results of laboratory analysis. The opinions presented herein apply to site conditions existing at the time of our investigation and those reasonably foreseeable. Quantity estimates of confirmed ACBM and LBPM are preliminary, based on observations made during our survey and should not be used to prepare a removal cost estimate. ATC cannot act as insurers, and no expressed or implied representation or warrant is included or intended in our report except that our work was performed, within the limits prescribed by our clients, with the customary thoroughness and competence of our profession at the time and place the services were rendered. Unsampled ACBM and LBPM may be located within walls, ceiling cavities, below flooring or grade, and other non-accessible areas. Precaution should be used in relation to these unsampled materials until their asbestos content has been determined by proper sampling and analysis. The condition of the ACBM and LBPM may change gradually or suddenly, depending upon use, maintenance or accident.

This report is intended for the sole use of the City of Houston. The scope of services performed in execution of this evaluation may not be appropriate to satisfy the needs of other users, and use or re-use of this document or the findings, conclusions, or recommendations, is at risk of said user.

**ATC Associates Inc.**



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Jennifer L. Boone  
Sr. Environmental Scientist  
TDSHS IAC Lic. #10-5554



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Catherine G. McLain  
Industrial Hygiene Department Manager  
TDSHS IAC Lic. #10-5451

**TABLE 1**  
**SUMMARY OF SUSPECTED ACBM BULK SAMPLES**  
**Office Building, 9003 North Main Street, Houston, Texas**

SAMPLE NO.	DESCRIPTION/LOCATION	RESULT
B-01	Wallboard Throughout	None Detected
B-01 JC	Joint compound Throughout	None Detected
B-02	Wallboard Throughout	None Detected
B-02 JC	Joint compound Throughout	None Detected
B-03	Wallboard Throughout	None Detected
B-03 JC	Joint compound Throughout	None Detected
B-04	Wallboard Throughout	None Detected
B-04 JC	Joint compound Throughout	None Detected
B-05	Wallboard Throughout	None Detected
B-05 JC	Joint compound Throughout	None Detected
B-06	Wallboard Throughout	None Detected
B-06 JC	Joint compound Throughout	None Detected
B-07	Wallboard Throughout	None Detected
B-07 JC	Joint Compound	None Detected
B-08	Cove Base Mastic Throughout	None Detected
B-09	Cove Base Mastic Throughout	None Detected
B-10	Cove Base Mastic Throughout	None Detected
B-11	Carpet Mastic Throughout	None Detected
B-12	Carpet Mastic Throughout	None Detected
B-13	Carpet Mastic Throughout	None Detected
B-14	1' x 1' ceiling tile Offices 1 through 5 and Hallway 1	None Detected

**TABLE 1**  
**SUMMARY OF SUSPECTED ACBM BULK SAMPLES**  
**Office Building, 9003 North Main Street, Houston, Texas**

SAMPLE NO.	DESCRIPTION/LOCATION	RESULT
B-14 Mastic	1' x 1' ceiling tile Mastic Offices 1 through 5 and Hallway 1	None Detected
B-15	1' x 1' ceiling tile Offices 1 through 5 and Hallway 1	None Detected
B-15 Mastic	1' x 1' ceiling tile Mastic Offices 1 through 5 and Hallway 1	None Detected
B-16	1' x 1' ceiling tile Offices 1 through 5 and Hallway 1	None Detected
B-16 Mastic	1' x 1' ceiling tile Mastic Offices 1 through 5 and Hallway 1	None Detected
B-17	12" x 12" white with tan splotches floor tile Entry Hall	None Detected
B-17 Mastic	Yellow mastic Entry Hall	None Detected
B-18	12" x 12" white with tan splotches floor tile Entry Hall	None Detected
B-18 Mastic	Yellow mastic Entry Hall	None Detected
B-19	12" x 12" white with tan splotches floor tile Entry Hall	None Detected
B-19 Mastic	Yellow mastic Entry Hall	None Detected
B-20	2' x 2' suspended ceiling tile Hallway 2	None Detected
B-21	2' x 2' suspended ceiling tile Hallway 2	None Detected
B-22	2' x 2' suspended ceiling tile Hallway 2	None Detected
B-23	12" x 12" black floor tile Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-23 Mastic	Yellow mastic Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-24	12" x 12" black floor tile Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-24 Mastic	Yellow mastic Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-25	12" x 12" black floor tile Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-25 Mastic	Yellow mastic Hallway 2, Offices 1 through 6, Cafeteria Room, West Restrooms	None Detected
B-26	2' x 4' ceiling tile Hallway 1, Cafeteria Room	None Detected

**TABLE 1**  
**SUMMARY OF SUSPECTED ACBM BULK SAMPLES**  
**Office Building, 9003 North Main Street, Houston, Texas**

SAMPLE NO.	DESCRIPTION/LOCATION	RESULT
B-27	2' x 4' ceiling tile Hallway 1, Cafeteria Room	None Detected
B-28	2' x 4' ceiling tile Hallway 1, Cafeteria Room	None Detected
B-29	Wallboard Cafeteria Room	None Detected
B-29 JC	Joint compound/wall texture Cafeteria Room	None Detected
B-30	Wallboard Cafeteria Room	None Detected
B-30 JC	Joint compound/wall texture Cafeteria Room	None Detected
B-31	Wallboard Cafeteria Room	None Detected
B-31 JC	Joint compound/wall texture Cafeteria Room	None Detected
B-32	Interior Window Glazing Offices 6, 7, 8 and Restroom A	3 – 5% Chrysotile
B-33	Interior Window Glazing Offices 6, 7, 8 and Restroom A	Not Analyzed
B-34	Interior Window Glazing Offices 6, 7, 8 and Restroom A	Not Analyzed

**Notes:**

- 1) Bulk samples were analyzed by ATC's Laboratory in Miami, Florida utilizing the Environmental Protection Agency's Interim Method for the Detection of Asbestos in Bulk Insulation Samples. (EPA 600/M4-82020. July 1993) and the McCrone Research Institute's The Asbestos Particle Atlas as method references.
- 2) ATC's laboratory is accredited by the NVLAP, participates in the NVLAP and AIHA Bulk Asbestos Sample Quality Assurance Programs, and is licensed to analyze bulk asbestos samples by the Texas Department of Health.
- 3) Due to the sometimes difficulty in analyzing non-friable or resinously bound materials, ATC's laboratory recommends that these materials, which were not found to contain asbestos, be analyzed using alternative methods of identification, such as Transmission Electron Microscopy.

**TABLE 2**  
**SUMMARY OF ACBM ASSESSMENT**  
**Houston, Texas**

<b>MATERIAL/LOCATION</b>	<b>QUANTITY ESTIMATE</b>	<b>FRIABILITY</b>	<b>HAZARD ASSESSMENT</b>
Wallboard and Joint Compound	25,000 SF	Non-friable	A
Cove Base Mastic	2500 LF	Non-friable	A
Carpet Mastic	650 SF	Non-friable	A
1' x 1' Ceiling Tile and Mastic	775 SF	Non-friable	A
12" x 12" White w/Tan Splotches floor tile and mastic	250 SF	Non-friable	A
2' x 2' Ceiling Tile	350 SF	Friable	A
12" x 12" Black floor tile and mastic	2,700 SF	Non-friable	A
2' x 4' Ceiling Tile	132 SF	Friable	A
Texture, Wallboard and Joint Compound	950 SF	Friable	A
Interior Window Glazing Offices 6, 7, 8 and Restroom A	232 LF	Non-friable	C-2

**Notes:**

**C-1 Asbestos Present** – Serious health hazard as defined by EPA. Abatement should be top priority.

**C-2 Asbestos Present** – Health hazard as defined by EPA. Abatement should be planned.

**C-3 Asbestos Present** – No action necessary unless renovation, remodeling, or demolition is planned.

**B-1 Asbestos Present** – Contains 1% asbestos or less. Not regulated by TDSHS.

**B-2 Asbestos Present** – Adequately enclosed.

**B-3 Asbestos Present** – Adequately encapsulated

**A No Asbestos Found**

**A-1 Asbestos Abated** – Once identified Asbestos-Containing Materials have been abated.

Unsampled asbestos-containing construction materials may be located within walls, ceiling cavities, below flooring or grade, and other non-accessible areas. Precaution should be used in relation to these unsampled materials until their asbestos content has been determined by proper sampling and analysis.

**TABLE 3**  
**SUMMARY OF ANALYSIS OF PAINT FOR LEAD DETERMINATION**  
**9003 North Main Street, Houston, Texas**

Sample No.	Sample Site	Tested Component	Analytical Results
L-001	CWB	Off-White paint on concrete block wall	<0.02
L-002	CWB	Off-White paint on plywood	<0.02
L-003	WHB	Off-White paint on interior plywood walls	<b>0.02</b>
L-004	OFB	Red Primer on structural steel	<b>0.66</b>
L-005	OFB	Off-White over Tan on walls at north end of warehouse	<0.02
L-006	OFB	White paint on walls in Cafeteria Room	<0.01
L-007	OFB	Tan paint on all office walls	<0.01
L-008	OFB	Tan paint on all office walls	<0.01

**Notes:**

**CWB- Car Wash Building**

**WHB - Warehouse Building**

**OFB - Office Building**

- 1) Paint chip samples were analyzed by ATC's Laboratory in New York, New York utilizing the Environmental Protection Agency's Analytical Method 7420 and Digestion Method 3050.
- 2) ATC's laboratory is accredited by the AIHA and certified under ELLAP.



**TABLE 4**  
**SUMMARY OF LBPM ASSESSMENT**  
**9003 North Main Street, Houston, Texas**

LOCATION/DESCRIPTION	QUANTITY ESTIMATE	CONDITION	HAZARD ASSESSMENT
Off-White paint on concrete block wall	512 SF	Fair	A
Off-White paint on plywood	1280 SF	Fair	A
Off-White paint on interior plywood walls	5000 SF	Good	A
Red Primer on structural steel	2000 SF	Fair	C-1
Off-White over Tan on walls at north end of warehouse	3200 SF	Good	A
White paint on walls in Cafeteria Room	950 SF	Good	A
Tan paint on all office walls	25,000 SF	Good	A
Tan paint on all office walls	25,000 SF	Good	A

**Notes:**

**C-1 Lead Present** – Health hazard as defined by applicable Federal and State regulations. Abatement priority. ( $\geq 5,000$  ppm or 0.5% by weight or 1 mg/cm<sup>2</sup>)

**C-2 Lead Present** – No action necessary when lead levels are below applicable Federal and State regulation action levels. OSHA regulations may apply to workers during demolition or renovation. ( $< 5,000$  ppm or 0.5% by weight or 1 mg/cm<sup>2</sup>)

**A Allowable Lead Level** – ( $\leq 600$  ppm or 0.06% by weight as defined by the U.S. Consumer Product Safety Commission (CPSC) report dated October 1, 1996)

**A-1 Lead Abated** – Identified Lead Containing Materials (LCM) have been abated.

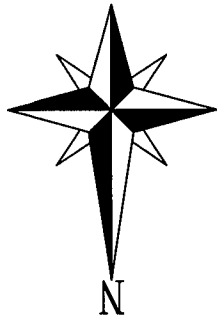
Un-sampled LBPM may be located within walls, ceiling cavities, below flooring or grade, and other non-accessible areas. Precaution should be used in relation to these unsampled materials until their lead content has been determined by proper sampling and analysis.



## **APPENDIX A**

### **SAMPLE LOCATION FIGURES**

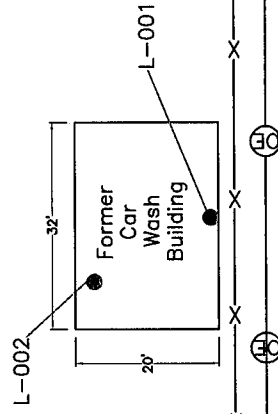
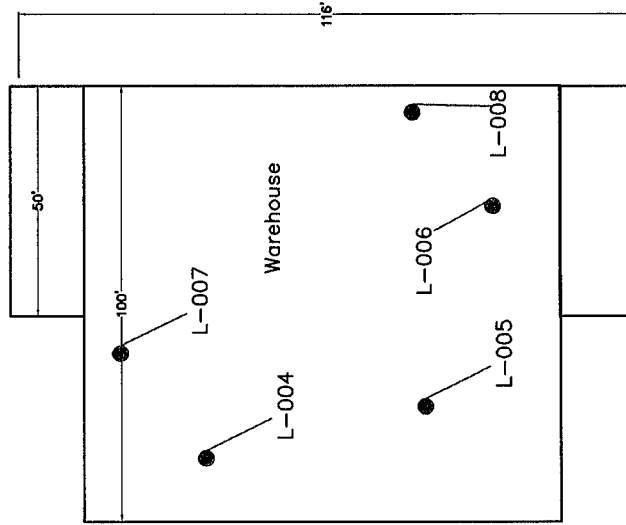
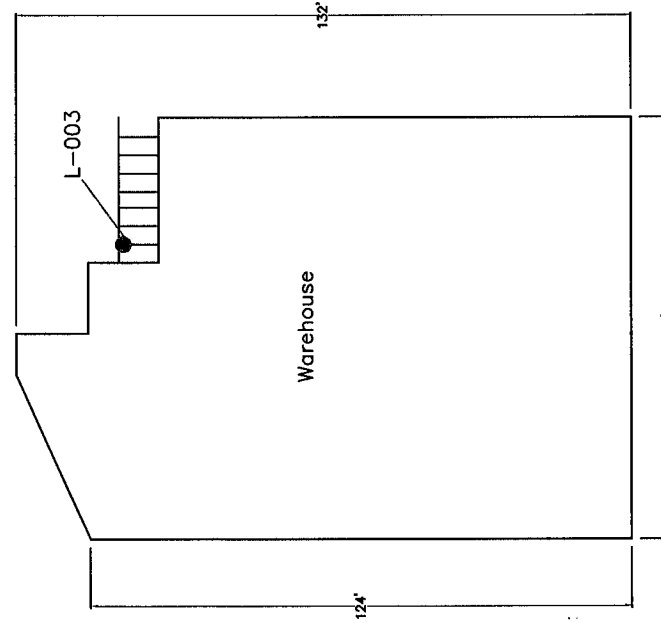
**FIGURE NO.: 2**



Main Street

LEGEND

● Lead Based Paint  
Sample Locations



Water  
Meter

Harvard Street

# SUSPECT LEAD BASED PAINT SAMPLE LOCATIONS

City of Houston  
9003 North Main Street  
Houston, Texas

PROJECT NO.  
73.17331.0074

SCALE:  
NOT TO SCALE

DATE: JUNE 2006

FIGURE NO.: 1

3928 Bushwood Drive  
Sanford, Texas 77177  
(281) 240-0154  
(281) 240-8008 Fax





## **APPENDIX B**

### **SUSPECTED ACBM BULK SAMPLE ANALYSIS REPORT AND CHAIN-OF-CUSTODY**



# HYGEIA Laboratories, Inc.

9955 NW 116th Way, Suite 1, Miami, Florida, 33178, (305)882-8200, (305)882-1200 (fax)

NVLAP Accredited #200335-0

## BULK SAMPLE ANALYSIS REPORT

Page 1 of 5

**Client Name:** ATC - Houston

**Project #** 73.17331.0074

**Project Name** City of Houston, 9003 Main Street

**Date Collected** 6/28/2006

**CollectedBy:** Jennifer Boone

**Batch** 06-1174

**Date Received** 6/29/2006

**Date Analyzed** 6/29/2006

**Analyst** Domingo Ramos

**Analyst Signature**

On 06/29/06, Thirty Four(34) bulk samples were submitted by Jennifer Boone for Polarized Light Microscopy (PLM)/Dispersion Staining Analysis.

Of the Thirty Four(34) samples submitted, Fifty One(51) analyses were performed with associated layers for asbestos content utilizing EPA Method 600/R-93/116. Copies of the chain of custody data sheets are attached; additional information may be found therein. The results are summarized below.

Sample ID/ Lab ID	Sample Description	Stereoscopic Description	Asbestos Type(s)	%	Fibrous Components	%	Non-Fibrous Components
B-01	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-01	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-02	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-02	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-03	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-03	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-04	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-04	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-05	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-05	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-06	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-06	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates



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## BULK SAMPLE ANALYSIS REPORT

Page 2 of 5

**Client Name:** ATC - Houston

**Project #** 73.17331.0074

**Task #**

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**Date Collected** 6/28/2006

**CollectedBy:** Jennifer Boone

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Sample ID/ Lab ID	Sample Description	Stereoscopic Description	Asbestos Type(s)	%	Fibrous Components	%	Non-Fibrous Components
B-07	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-07	Joint Compound	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-08	Covebase Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-09	Covebase Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-10	Covebase Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-11	Carpet Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-12	Carpet Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-13	Carpet Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-14	1' x 1' Ceiling Tile	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	1-2 65-70	Silicates Perlite NF Glass
B-14	Brown Mastic	Color: Brown Friable: No Homo: Yes Layered: No	None Detected		Fibrous Glass	3-5	Silicates Mastic
B-15	1' x 1' Ceiling Tile	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	1-2 65-70	Silicates Perlite NF Glass
B-15	Brown Mastic	Color: Brown Friable: No Homo: Yes Layered: No	None Detected		Fibrous Glass	3-5	Silicates Mastic



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NVLAP Accredited #200335-0

## BULK SAMPLE ANALYSIS REPORT

Page 3 of 5

**Client Name:** ATC - Houston

**Project #** 73.17331.0074

**Task #**

**Project Name** City of Houston, 9003 Main Street

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Sample ID/ Lab ID	Sample Description	Stereoscopic Description	Asbestos Type(s)	%	Fibrous Components	%	Non-Fibrous Components
B-16	1' x 1' Ceiling Tile	Color: White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	1-2 65-70	Silicates Perlite NF Glass
B-16	Brown Mastic	Color: Brown Friable: No Homo: Yes Layered: No	None Detected		Fibrous Glass	3-5	Silicates Mastic
B-17	12 x 12 White Floor Tile w/ Tan Splotches	Color: White, Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-17	Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-18	12 x 12 White Floor Tile w/ Tan Splotches	Color: White, Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-18	Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-19	12 x 12 White Floor Tile w/ Tan Splotches	Color: White, Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-19	Mastic	Color: Yellow Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-20	2' x 2' Ceiling Tile	Color: Brown, White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	20-25 10-15	Silicates Perlite NF Glass
B-21	2' x 2' Ceiling Tile	Color: Brown, White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	20-25 10-15	Silicates Perlite NF Glass
B-22	2' x 2' Ceiling Tile	Color: Brown, White Friable: Yes Homo: Yes Layered: No	None Detected		Cellulose Fibrous Glass	20-25 10-15	Silicates Perlite NF Glass
B-23	12 x 12 Black Floor Tile	Color: Black Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates





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NVLAP Accredited #200335-0

## BULK SAMPLE ANALYSIS REPORT

Page 4 of 5

**Client Name:** ATC - Houston

**Project #** 73.17331.0074

**Project Name** City of Houston, 9003 Main Street

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**Analyst Signature**

On 06/29/06, Thirty Four(34) bulk samples were submitted by Jennifer Boone for Polarized Light Microscopy (PLM)/Dispersion Staining Analysis.

Of the Thirty Four(34) samples submitted, Fifty One(51) analyses were performed with associated layers for asbestos content utilizing EPA Method 600/R-93/116. Copies of the chain of custody data sheets are attached; additional information may be found therein. The results are summarized below.

Sample ID/ Lab ID	Sample Description	Stereoscopic Description	Asbestos Type(s)	%	Fibrous Components	%	Non-Fibrous Components
B-23	Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-24	12 x 12 Black Floor Tile	Color: Black Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-24	Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-25	12 x 12 Black Floor Tile	Color: Black Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Carbonates
B-25	Mastic	Color: Tan Friable: No Homo: Yes Layered: No	None Detected		None Detected		Silicates Mastic
B-26	2' x 4' Ceiling Tile	Color: White, Tan Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Perlite
B-27	2' x 4' Ceiling Tile	Color: White, Tan Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Perlite
B-28	2' x 4' Ceiling Tile	Color: White, Tan Friable: Yes Homo: Yes Layered: No	None Detected		None Detected		Silicates Perlite
B-29	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-29	Texture/Joint Compound	Color: White Friable: Yes Homo: Yes Layered: Yes	None Detected		None Detected		Silicates Carbonates Paint
B-30	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-30	Texture/Joint Compound	Color: White Friable: Yes Homo: Yes Layered: Yes	None Detected		None Detected		Silicates Carbonates Paint



# HYGEIA Laboratories, Inc.

9955 NW 116th Way, Suite 1, Miami, Florida, 33178, (305)882-8200, (305)882-1200 (fax)

NVLAP Accredited #200335-0

Page 5 of 5

## BULK SAMPLE ANALYSIS REPORT

**Client Name:** ATC - Houston

**Project #** 73.17331.0074

**Project Name** City of Houston, 9003 Main Street

**Date Collected** 6/28/2006

**CollectedBy:** Jennifer Boone

**Batch** 06-1174

**Date Received** 6/29/2006

**Date Analyzed** 6/29/2006

**Analyst** Domingo Ramos

**Analyst Signature**

On 06/29/06, Thirty Four(34) bulk samples were submitted by Jennifer Boone for Polarized Light Microscopy (PLM)/Dispersion Staining Analysis.

Of the Thirty Four(34) samples submitted, Fifty One(51) analyses were performed with associated layers for asbestos content utilizing EPA Method 600/R-93/116. Copies of the chain of custody data sheets are attached; additional information may be found therein. The results are summarized below.

Sample ID/ Lab ID	Sample Description	Stereoscopic Description	Asbestos Type(s)	%	Fibrous Components	%	Non-Fibrous Components
B-31	Wallboard	Color: White, Tan Friable: Yes Homo: Yes Layered: Yes	None Detected		Cellulose Fibrous Glass	5-10 2-3	Silicates
B-31	Texture/Joint Compound	Color: White Friable: Yes Homo: Yes Layered: Yes	None Detected		None Detected		Silicates Carbonates Paint
B-32	Interior Window Glazing	Color: Gray Friable: Yes Homo: Yes Layered: No	Chrysotile	3-5	None Detected		Silicates Carbonates
B-33	Interior Window Glazing	Color: Friable: Homo: Layered:	*Not Analyzed				
B-34	Interior Window Glazing	Color: Friable: Homo: Layered:	*Not Analyzed				

**Comments- Analytical Methods:** EPA 600/R-93/116, July 1993

- Enclosed test results relates only to items tested.
- This report shall not be reproduced, except in full without written approval of the laboratory.
- This report cannot be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

### -Method Limitations:

Analysis of resinous and bituminous bound materials (i.e. floor tile, roofing, etc.) by Polarized Light Microscopy (PLM) may yield false negative results due to method limitations. In these cases, EPA and Hygeia recommend alternative methods of analysis.

### - Layered Samples:

Samples that contain discreetly identifiable layers will be analyzed and reported separately, if any layer is found to contain asbestos. When all layers are found not to contain asbestos one composite analysis can be reported. In addition, samples that contain individual layers that cannot be discreetly separated without compromising some layer; these samples will be analyzed as composite.

### -Sample Archival:

Hygeia's policy is to dispose of all unused portions of the sample(s) 90 days after analysis. Samples can be returned to the client if prior arrangements are made.

\*Not Analyzed - 1st Positive Stop Series

Respectfully Submitted,

Julio Lopez  
Laboratory Manager

# ASBESTOS BULK SAMPLING - CHAIN OF CUSTODY

ATC ASSOCIATES INC.

3928 Bluebonnet Drive  
Stafford, Texas 77477

(281) 240-0154 phone (281) 240-8909 fax

Client Name: City of Houston

Project No.: 73.17331.0074

Date: 6/28/2006

Site Location: 9003 Main Street

Prj Manager: Catherine McLain

Inspector: J. Boone

Sample No.	HA No.	Material Description	Classification	Homogeneous Material Location(s)	Quantity	Condition
B-01	A	Wallboard and Joint Compound	Surfacing TSI Miscellaneous Nonfriable Friable	Office 1 - West wall Office 2 - South wall Office 5 - South wall	25,000 SF	Good Fair Poor
B-04	✓	↓	Surfacing TSI Miscellaneous Nonfriable Friable	Hallway 1 - South End Office 8 - North wall	✓	Good Fair Poor
B-05	✓	↓	Surfacing TSI Miscellaneous Nonfriable Friable	Office 8 - East wall Office 7 - South wall	✓	Good Fair Poor
B-06	✓	↓	Surfacing TSI Miscellaneous Nonfriable Friable	Office 1 - West wall Office 2 - South wall Office 5 - South wall	2500 SF	Good Fair Poor
B-07	B	Cove Base Mastic	Surfacing TSI Miscellaneous Nonfriable Friable	Office 1 - North wall Office 2 - <del>West</del> wall-doorway Office 5 - South wall	650 SF	Good Fair Poor
B-11	C	Carpet Mastic	Surfacing TSI Miscellaneous Nonfriable Friable	Office 2 - Center Entry Hall - Center	1775 SF	Good Fair Poor
B-12	D	1' x 1' Ceiling Tile and Brown Mastic	Surfacing TSI Miscellaneous Nonfriable Friable	Entry Hall Bathroom Doorway Entry Hall - Front Doorway Entry Hall - Hall Doorway	250 SF	Good Fair Poor
B-13	E	12x12 White w/ Tan glazes - Floor tile and mastic	Surfacing TSI Miscellaneous Nonfriable Friable			
B-14						
B-15						
B-16						
B-17						
B-18						
B-19						

COMMENTS: Positive stop analysis per homogeneous sample.

RELINQUISHED BY (SIGNATURE BELOW): RECEIVED BY (SIGNATURE BELOW):

PRINT NAME: Jennifer L. Boone DATE/TIME: 6/28/06 0630pm

PRINT NAME: J. Boone DATE/TIME: 6/29/06 10:50

LABORATORY: Turn Around

Standard 48 hours  
24 Hours  
Other



# ASBESTOS BULK SAMPLING - CHAIN OF CUSTODY

ATC ASSOCIATES INC.

3928 Bluebonnet Drive

Stafford, Texas 77477

(281) 240-0154 phone (281) 240-8909 fax

Client Name: City of Houston

Project No.: 73.17331.0074

Date: 6/28/2006

Site Location: 9003 Main Street

Prj Manager: Catherine McLain

Inspector: J. Boone

Sample No.	HA No.	Material Description	Classification	Homogeneous Material Location(s)	Quantity	Condition
B-20		2'x2' Ceiling Tile	Surfacing TSI Miscellaneous Nonfriable Friable	Hallway 2	350 SF	Good Fair Poor
B-21				Hallway 2		
B-22				Hallway 2		
B-23		12x12 Black floor tile	Surfacing TSI Miscellaneous Nonfriable Friable	Captain's Room	2700 SF	Good Fair Poor
B-24				Office 8		
B-25				Office 10		
B-26		2'x4 Ceiling Tile	Surfacing TSI Miscellaneous Nonfriable Friable	Hallway 1 - south end	132 SF	Good Fair Poor
B-27				Captain's Room - West end		
B-28				Captain's Room - North end		
B-29		Texture/Wallboard	Surfacing TSI Miscellaneous Nonfriable Friable	Captain's Room - North end	950 SF	Good Fair Poor
B-30		and Joint Compound		" "		
B-31				" "		
B-32		Window Glazing - Interior	Surfacing TSI Miscellaneous Nonfriable Friable	Office 7	232 LF	Good Fair Poor
B-33				Office 8		
B-34				Bedroom A		
			Surfacing TSI Miscellaneous Nonfriable Friable			Good Fair Poor
			Surfacing TSI Miscellaneous Nonfriable Friable			Good Fair Poor
			Surfacing TSI Miscellaneous Nonfriable Friable			Good Fair Poor

COMMENTS: Positive stop analysis per homogeneous sample.

RELINQUISHED BY (SIGNATURE BELOW):	RECEIVED BY (SIGNATURE BELOW):	LABORATORY:	Turn Around
<i>Catherine McLain</i>			Standard
			48 hours
			24 hours
			Other
PRINT NAME: <i>Jennifer L Boone</i>	DATE/TIME: <i>6/28/06 0630AM</i>		





## **APPENDIX C**

# **SUSPECTED LEAD-BASED PAINT ANALYSIS REPORT AND CHAIN-OF-CUSTODY**



# ATC ASSOCIATES INC

104 E. 25th Street, 10th Floor

New York, NY 10010

Tel. 212-353-8280

Fax: 212-353-8306

**REPORT DATE:** 6/30/2006  
**CLIENT NAME:** ATC - TEXAS  
**PROJECT NAME:** CITY OF HOUSTON / 9003 MAIN

**SAMPLED BY:** Client  
**SAMPLE DATE:** 6/28/2006  
**RECEIVED DATE:** 6/30/2006  
**ANALYZED DATE:** 6/30/2006  
**SAMPLE MEDIA:** Paint Chips by %  
**ANALYSIS REQUIRED:** Method EPA 3050/7420

## ANALYSIS RESULTS

SAMPLE ID	BATCH NO.	LEAD CONCENTRATION (% by weight)	DETECTION LIMIT (% by weight)
L-001	39613	<0.02	0.02
L-002	39613	<0.02	0.02
L-003	39613	0.02	0.02
L-004	39613	0.66	0.01
L-005	39613	<0.02	0.02
L-006	39613	<0.01	0.01
L-007	39613	<0.01	0.01
L-008	39613	<0.01	0.01

SAMPLE ID	BATCH NO.	LEAD CONCENTRATION (% by weight)	DETECTION LIMIT (% by weight)
--------------	--------------	--	-------------------------------------

NOTE 1:

THE REPORTING LIMIT (RL) IS 0.01%. The detection limit as reported is the reporting limit. The true detection limit is half the RL.

NOTE 2:

HUD defines lead-based paint as paint having a lead concentration equal to or above 0.5% by weight. Results preceded by "<" are below the detectable levels by this analysis method.

NOTE 3:

ATC Associates Inc. Laboratory is not responsible for sample collection. These results relate only to the items tested. This report shall not be reproduced, except in full, without written approval of the laboratory.

### CERTIFICATIONS AND SIGNATURES

ANALYSIS PERFORMED BY:

Inna Livshiz

REPORT PREPARED BY:

Inna Kipen

ATC certifies that this report is an accurate and authentic report of results obtained from the laboratory analysis.

QUALITY ASSURANCE COORDINATOR:

Mei Wang

LABORATORY DIRECTOR:

Milena Lowd

ATC is accredited by the New York State Department of Health Environmental Laboratory Approval Program (ELAP) and by the American Industrial Hygiene Association (AIHA) to perform analysis of lead in paint, dust wipes, air and soil samples. (ELAP #10879), (AIHA #100229).

Confidentiality Notice:

The document(s) contained herein are confidential and privileged information, intended for the exclusive use of the individual or entity named above.

Unless otherwise indicated, no blank corrections were performed.

The condition of all samples was acceptable upon receipt.

Unless otherwise indicated all QC results were in control.

**APPENDIX D**

**ATC'S APPLICABLE LICENSES AND CERTIFICATIONS**





# TEXAS DEPARTMENT OF STATE HEALTH SERVICES

*Be it known that*

**ATC ASSOCIATES, INC.**

*is certified to perform as a*

**Asbestos Consultant Agency**

*in the State of Texas within the purview of Texas Occupations Code, chapter 1954,  
so long as this license is not suspended or revoked and is renewed according to the  
rules adopted by the Texas Board of Health.*

*Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health*

License Number: 100032

Effective Date: 2/15/2006

Expiration Date: 2/14/2008

*(Void After Expiration Date)*

VOID IF ALTERED

Control Number: 91523

NON-TRANSFERABLE



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

*Be it known that*

ATC GROUP SERVICES DBA  
HYGEIA LABORATORIES

*is certified to perform as a*

Asbestos Laboratory TEM, PLM, PCM

*in the State of Texas within the purview of Texas Occupations Code, chapter 1954,  
so long as this license is not suspended or revoked and is renewed according to the  
rules adopted by the Texas Board of Health.*

*E. J. Sanchez MD*

Eduardo J. Sanchez, M.D., M.P.H.  
Commissioner of Health

License Number: 300230

Effective Date: 5/22/2006

Expiration Date: 5/21/2008

*(Void After Expiration Date)*

VOID IF ALTERED

Control Number: 92471

NON-TRANSFERABLE



TEXAS

Department of  
State Health Services

Control No:  
93012

Department of State Health Services certifies that:

**CATHERINE G MCLAIN**

is Licensed as an:

Individual Asbestos Consultant

License Number: 105451

From: 05/19/2006

To: 05/18/2008





TEXAS  
Department of  
State Health Services

Control No:  
87205

Department of State Health Services certifies that:

**JENNIFER L BOONE**

is Licensed as an:

Individual Asbestos Consultant



License Number: 105554

From: 06/29/2005

To: 06/28/2007

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**APPENDICES**

Appendix A	Soil Boring Logs
Appendix B	Laboratory Reports and Chain-of-Custody Documentation

## EXECUTIVE SUMMARY

ATC Associates completed a limited Phase II Environmental Site Assessment (ESA) of the City of Houston property located at 9003 North Main Street, in Houston, Texas (herein referred to as the subject property). This report details the completion of the Limited Phase II ESA, in accordance with applicable ASTM standards and accepted environmental practices.

This Limited Phase II ESA conducted on June 21, 2006 identified the presence of BTEX and formaldehyde in the soil and groundwater. The constituent concentrations identified during the Phase II ESA were evaluated with respect to previous concentrations associated with the leaking petroleum storage tank (LPST) case and the TRRP Tier 1 groundwater protective concentration levels (PCLs). BTEX concentrations detected during this assessment were above TCEQ action levels for petroleum underground storage tank sites. These concentrations were below the previous concentrations detected at the site when closure was granted in 1997. The evaluation also identified formaldehyde to be below the TRRP Tier 1 groundwater PCL.

Three soil borings were advanced during the course of this Limited Phase II ESA. Soil samples were collected at the 12 – 14 ft below ground surface (bgs) interval in B-1, and the 20-22 ft bgs interval in B-2 and B-3. One soil samples from each boring was analyzed for BTEX by EPA Method 8021B, TPH by TX Method 1005, and Formaldehyde by EPA Method 8315. Analytical results for BTEX and TPH were below previous concentrations under which the site closed and formaldehyde was below the TRRP Tier 1 Residential PCLs.

The soil borings were converted to temporary monitoring wells. Groundwater samples were collected, submitted to Severn Trent Laboratories (STL) and analyzed for BTEX by EPA Method 8021B, TPH by TX Method 1005, and Formaldehyde by EPA Method 8315.

The concentrations identified during the Phase II ESA were evaluated with respect to previous concentrations associated with LPST case and the TRRP Tier 1 groundwater protective concentration levels (PCLs). BTEX was detected above TCEQ action levels but were below previous concentrations at the site. Formaldehyde concentrations were below the TRRP Tier 1 Residential PCLs.

Based on the data provided during the course of this Limited Phase II ESA, it appears that no further actions are recommended for the subject property at this time.

## **1.0 INTRODUCTION**

### **1.1 Purpose and Scope**

ATC Associates (ATC) was contracted by the City of Houston to conduct a Limited Phase II ESA of the subject property located at 9003 North Main in Houston, TX.

The purpose of the Limited Phase II Environmental Site Assessment (ESA) is to assess impact to the property from the LPST release associated with the site as well as reported historical use as a funeral home. The Limited Phase II ESA was performed to assist in confirming the nature and extent of contamination in the soil and groundwater of the above-referenced property.

The scope of the Limited Phase II Investigation included subsurface soil sampling, the installation of three temporary groundwater monitoring points, and groundwater sampling via the installation of three soil borings and temporary monitoring wells.

### **1.2 Background**

The property is owned by the City of Houston, and was formerly used as an office and storage facility by the Street Maintenance Department. The site contains a one-story office building with an attached warehouse area in the eastern section of the property, a metal warehouse building at the north end of the property, and a canopy covered truck wash area on the southwestern portion of the site. The site also contains a concrete paved storage area formerly used for gravel, soil and other bulk materials used for street maintenance. The subject property was also identified in the TCEQ database as a leaking petroleum storage tank (LPST) site. A total of four USTs located at the property were reportedly removed in 1992.

## **2.0 PREVIOUS INVESTIGATIONS**

### **2.1 Phase I Environmental Site Assessments**

Weston conducted a Phase I ESA which identified the following environmental concerns:

- The subject property was identified in the TCEQ database as a leaking petroleum storage tank (LPST) site. A total of four USTs located at the property were reportedly removed in 1992. Following removal of the USTs, an assessment and groundwater monitoring activities were performed at the site. Groundwater was impacted but it was determined that there were no apparent threats or impacts to receptors. TCEQ issued final closure of the LPST case in February 1998.
- The office building present at the property was constructed prior to the 1970s and may contain asbestos and lead-based paint.
- The property was reportedly used as a funeral home prior to 1984; however, no documentation is available to confirm the former presence of a funeral home on the site.



## **2.2 Phase II Environmental Site Assessment**

Carter and Burgess conducted Site Assessment activities at the site under the TCEQs LPST program in June 1995. Three groundwater monitoring wells were installed and soil and groundwater sampling was conducted. The soil and groundwater concentrations were above TCEQ action levels and the site was issued LPST number 104846. Groundwater monitoring was conducted and the site was closed in December 1997.

## **3.0 SOIL ASSESSMENT**

### **3.1 Soil Boring Advancement and Sample Collection**

On June 21, 2006, three soil borings were advanced with push-probe drilling equipment in the areas of the former USTs and near the back door of the office building. A site map depicting the soil boring location is included as Figure 1. The soil boring logs are provided in Appendix B.

During the advancement of the soil borings, soils were sampled continuously every 2 feet. One soil sample from each soil boring was selected for analysis; either the sample with the highest OVM reading or the sample at the soil groundwater interface was collected for laboratory analysis. Each soil sample was analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B, total petroleum hydrocarbons (TPH) by Texas Method 1005, and formaldehyde by EPA Method 8315.

### **3.2 Laboratory Analysis**

Analytical results of the soil samples collected by ATC indicated the presence of BTEX, and formaldehyde. Benzene concentrations ranged from below laboratory method detection limits in boring B-1 and B-3 to 0.072 mg/kg in B-1. Total BTEX concentrations ranged from below laboratory method detection limits in borings B-1 and B-3 to 2.982 mg/kg in B-2. TPH results were below laboratory method detection limits in the samples that were submitted for analysis. Formaldehyde was detected at concentrations of 2.520 mg/kg in B-1, 0.575 mg/kg in B-2, and 0.357 mg/kg in B-3. A copy of the laboratory analytical report by STL is provided in Appendix B.

The benzene concentration detected in B-2 is above the TCEQ action level for a UST site but is below the concentrations under which the site closed in 1997. The formaldehyde concentrations are below the TRRP Tier 1 Residential PCLS.

## **4.0 GROUNDWATER ASSESSMENT**

### **4.1 Groundwater Sampling**

The soil borings were converted to temporary groundwater monitoring wells. The temporary monitoring wells were constructed of threaded connection 1-inch ID, Schedule 40 PVC solid pipe, and 0.010-inch slotted PVC well screen.

On June 21, 2006, the three temporary monitoring wells were purged and sampled using a peristaltic pump. The wells were purged prior to sampling to reduce the amount of sediment present in the groundwater samples.

#### **4.2 Laboratory Analysis**

The analytical results of the groundwater samples obtained by ATC from the temporary monitoring wells on June 21, 2006 indicated concentrations of BTEX and formaldehyde. Benzene concentrations ranged from below laboratory method detection limits in B-2 and B-3 to 25.6 ug/L in B-1. Total BTEX concentrations ranged from below laboratory detection limits in B-3 to 561 ug/L in B-1. Formaldehyde concentrations were 27.6 ug/L in B-1, 46.4 ug/L in B-2, and 9.8 ug/L in B-3. TPH concentrations were below laboratory detection limits in the three borings. A copy of the laboratory analytical report is included in Appendix B

### **5.0 REGULATORY EVALUATION**

Analytical laboratory results from this Limited Phase II ESA were compared to action levels established by the TCEQ and to applicable TRRP PCL. In addition, BTEX and TPH concentrations were compared to previous concentrations from when the site was in the TCEQ LPST program.

#### **5.1 Soils**

The benzene concentration detected in B-1 is above the TCEQ action levels for UST sites but is less than previous concentrations under which the site closed in 1997. The formaldehyde concentrations detected in the groundwater samples collected from the temporary monitoring wells was below the TRRP Tier I Residential PCLs.

#### **5.2 Groundwater**

The benzene concentration detected in B-1 is above the TCEQ action levels for UST sites but is less than previous concentrations under which the site closed in 1997. The formaldehyde concentrations detected in the groundwater samples collected from the temporary monitoring wells was below the TRRP Tier I Residential PCLs.

### **6.0 QUALITY CONTROL/QUALITY ASSURANCE**

#### **6.1 Decontamination Procedures**

Drill operations were conducted using hydraulic direct push rig, with plastic sleeves, which were replaced after each 4-foot push. The auger drill rig used metal samplers which were cleaned in an alconox solution after each sample.

## **6.2 Field QA/QC Procedures**

Soil samples submitted for laboratory analysis were contained within a Teflon-lined glass jar, placed on ice, and transported to the laboratory for analysis. Soil samples submitted to the laboratory were analyzed for BTEX, TPH and formaldehyde.

The groundwater samples submitted for laboratory analysis were contained within the appropriate containers, placed on ice, and transported to the laboratory for analysis. The groundwater sample submitted to the laboratory was analyzed for BTEX, TPH and formaldehyde.

Each sample was labeled and secured to preserve the integrity of the identification, from the time the sample was collected until it was opened at the laboratory. For each sample, the sample container label and chain-of-custody form were completed. Soil and groundwater samples were immediately placed in a cooler containing ice or frozen ice packs and hand delivered to the laboratory.

## **6.3 Sample Quality Control/Quality Assurance**

Various QA/QC procedures were followed by the environmental laboratory. Prior to initiating analysis, it is required to establish that a given instrument meets the method tuning standard. The calibration of each instrument was verified at frequencies specified in the EPA approved methods. A new standard curve must be prepared as specified in each method per EPA Method SW-846.

Prior to analysis, instruments are required to be calibrated by the appropriate procedure. Each calibration standard was tabulated and the retention times recorded. The laboratory QA/QC results are provided in Appendix C.

# **7.0 CONCLUSIONS AND RECOMMENDATIONS**

## **7.1 Conclusions**

ATC has provided the following conclusions of this Phase II Site Assessment based on the field activities conducted on June 21, 2006 at the subject property, and on laboratory analytical data of media samples collected by ATC.

- The soils at the site consist of silty clays. Groundwater was encountered at a depth of approximately 15 to 21 feet bgs. Three temporary monitoring wells were installed to a maximum depth of 25 feet bgs.
- Analytical results of soil samples collected during the advancement of three soil borings along the west/southwest property boundary indicated the presence of BTEX and formaldehyde
- Formaldehyde concentrations in soil and groundwater were below the TRRP Tier I Residential PCLs

## **7.2 Recommendations**

Based on the analytical results of soil and groundwater samples collected during this Limited Site Assessment, no further action is recommended at this time. Even though the Benzene concentrations were above TCEQ action levels, they were below the previous soil and groundwater concentrations detected at the site under which site closure was achieved.

**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**  
**9003 North Main**  
**Houston, Texas**

---

**TABLES**

**TABLE 1**  
**SOIL ANALYTICAL RESULTS**  
City of Houston  
9003 North Main  
Houston, Texas

Well	Date	Depth (feet)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	Total BTEX (mg/kg)	Total Petroleum Hydrocarbons			
								C6-C12 (mg/kg)	C12-C28 (mg/kg)	C6-C28 (mg/kg)	Total C6-C35
B-1	06/21/06	12-14	<0.0056	<0.00774	<0.00742	<0.0233	ND	<6.57	<13.8	<13.8	<13.8
B-2	06/21/06	20-22	0.0721	0.155	0.785	1.970	2.982	<6.32	<13.3	<13.3	<13.3
B-3	06/21/06	20-22	<0.00539	<0.00745	<0.00715	<0.0224	ND	<6.33	<13.3	<13.3	<13.3
											Formaldehyde (mg/kg) 2.520

**Notes:**

mg/kg - milligrams per kilogram or parts per million.  
BTEX - benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B.  
ND - not detected above laboratory detection limits.  
NA - not available.

**TABLE 2**  
**GROUNDWATER ANALYTICAL RESULTS**  
City of Houston  
9003 North Main  
Houston, Texas

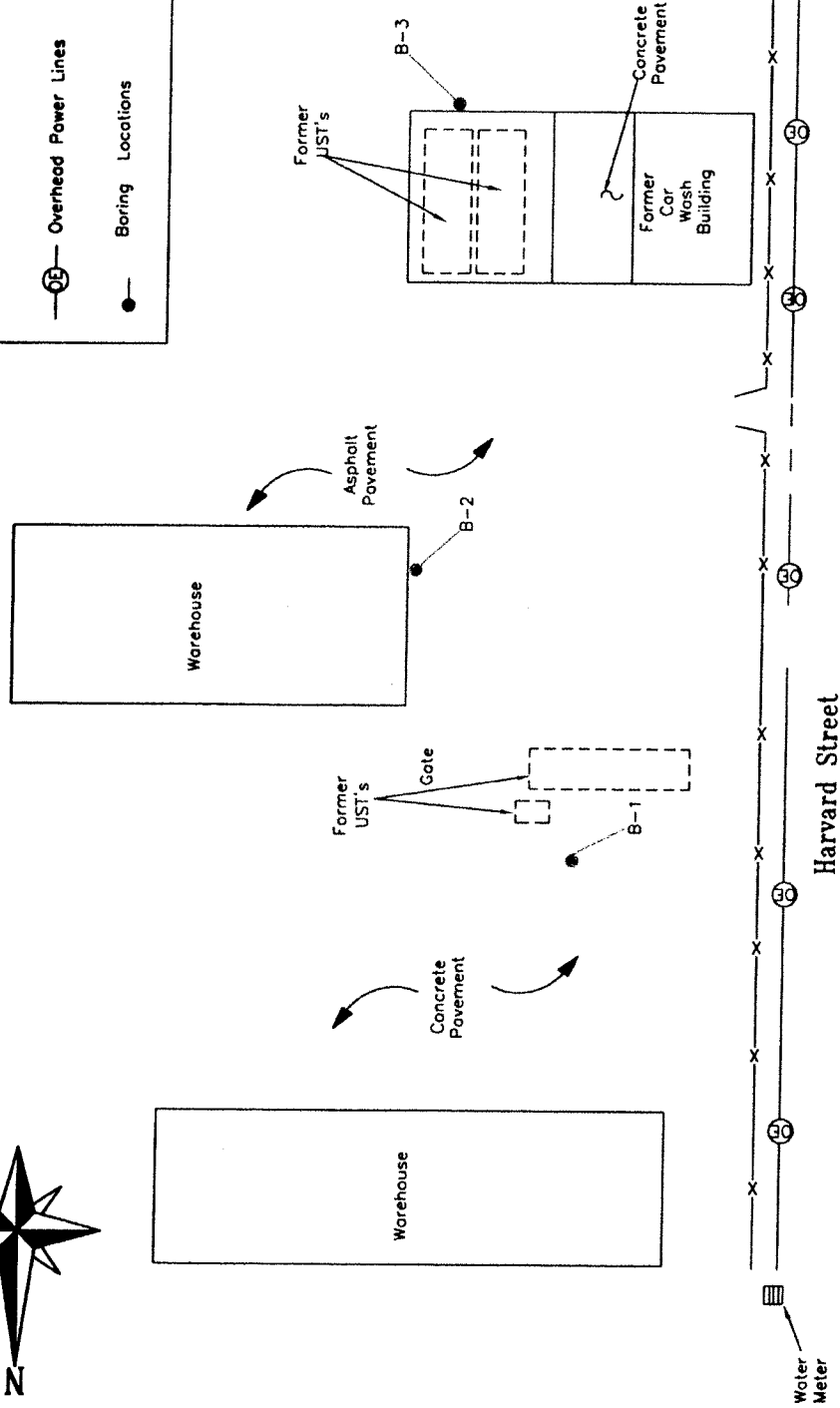
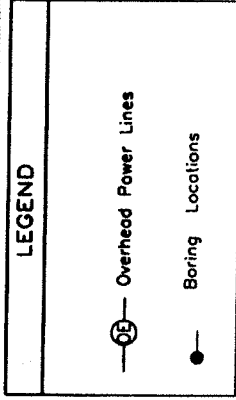
Well	Date	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	Total BTEX (ug/L)	Total Petroleum Hydrocarbons				Formaldehyde (ug/L)
							C6-C12 (mg/L)	C12-C28 (mg/L)	C6-C28 (mg/L)	Total C6-C35	
B-1	06/21/06	25.6	7.1	131	396.9	561	<0.48	<0.83	<0.83	<0.83	27.6
B-2	06/21/06	<0.170	<0.190	0.67	2.37	3.40	<0.48	<0.83	<0.83	<0.83	46.4
B-3	06/21/06	<0.170	<0.190	<0.230	<0.560	ND	<0.48	<0.84	<0.84	<0.84	9.8


**Notes:**

mg/kg - milligrams per kilogram or parts per million.  
BTEX - benzene, toluene, ethylbenzene, and xylenes by EPA Method 8021B.  
ND - not detected above laboratory detection limits.  
NA - not available.

## FIGURES





 <p>3025 Buckhorn Drive Houston, Texas 77077 (281) 460-9154 (281) 240-0800 Fax</p>	<p><b>SITE &amp; LOCATION MAP</b> City of Houston 9003 North Main Street Houston, Texas</p>		
	PROJECT NO.	73.17331.0074	
	SCALE:	NOT TO SCALE	
	DATE:	JUNE 2006	
		FIGURE NO.:	1

# **APPENDIX A**


## **SOIL BORING LOGS**

PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►	WELL DEPTH(FT) ►	WATER DEPTH(FT)—Initial:		Complete:	
WELL MATERIALS ►		OVM/OVA ► OVM			
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY		OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION	GRAPHIC		RECOVERY %	TIME	NUMBER	
0	Concrete		3				(12-14')
	Gravel and Sand fill						
	Brown and gray silty clay						
5			13				
	-mixed with sand		2				
10	Brown and gray silty clay		14				
	Gray sand wet @ 13'						
15	Brown and gray silty clay		9				
20	End Of Boring @ 20'						
	GW sample collected						
25							
30							


<b>BORING DESIGNATION</b> <b>B-1</b>	 <b>VATC</b> <small>ASSOCIATES INC.</small>	<b>PAGE NUMBER</b> <b>1 OF 1</b>
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PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►	WELL DEPTH(FT) ►	WATER DEPTH(FT) —Initial:		Complete:	
WELL MATERIALS ►			OVM/OVA ► OVM		
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY	GRAPHIC	OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION			RECOVERY %	TIME	NUMBER	
0	Concrete		0				
	Dark gray, silty clay						
5	Gray, silty clay— moist few Ca Nodules		0				
			0				
10	Gray and brown clay— moist, firm, Fe stains		0				
			0				
15	Red and gray clay		0				
20	With sand seams— wet						(20-22')
			0				
25	End Of Boring @ 24' GW sample collected						
30							


BORING DESIGNATION <b>B-2</b>	 <b>VATC</b> <small>ASSOCIATES INC.</small>	PAGE NUMBER <b>1 OF 1</b>
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PROJECT ► COH 9003 N. Main		Boring Log		PROJECT NUMBER ► 73.17331.0074	
LOGGED BY ► PD				START DATE ► 06-21-06	
CHECKED BY ►				COMPLETION DATE ►	
GROUND SURFACE ELEVATION DATUM (FT-MSL) ►			DRILLING COMPANY ► Alpine		
DRILLING EQUIPMENT ►			DRILLER ►		
BORING DEPTH(FT) ►		WELL DEPTH(FT) ►		WATER DEPTH(FT)—Initial:      Complete:	
WELL MATERIALS ►			OVM/OVA ► OVM		
BACKFILL MATERIAL ►					

DEPTH (FT)	LITHOLOGY		OVM/OVA (PPM)	SAMPLE			COMMENTS
	DESCRIPTION	GRAPHIC		RECOVERY %	TIME	NUMBER	
0	Asphalt		0				
	Brown and gray silt						
	Gray, silty clay, moist, soft						
5	Gray, silty clay— moist few Co Nodules		0				
			0				
10	Fe staining below 10'		0				
			0				
15	Red and gray clay, moist, stiff		0				
			0				
20	sand seams— wet						
25	End Of Boring @ 24' GW sample collected						
30							

BORING DESIGNATION <b>B-3</b>	 <b>VATC</b> ASSOCIATES INC.	PAGE NUMBER <b>1 OF 1</b>
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**APPENDIX B**

**LABORATORY REPORTS AND CHAIN-OF-CUSTODY  
DOCUMENTATION**

## ANALYTICAL REPORT

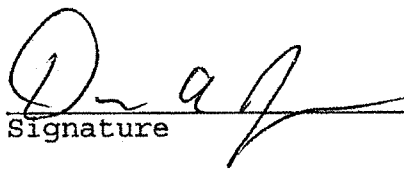
JOB NUMBER: 318054  
Project ID: 9003 N. MAIN

Prepared For:

ATC Associates, Inc.  
3928 Bluebonnet Drive  
Stafford, TX 77477

Attention: Patrick Dworaczyk

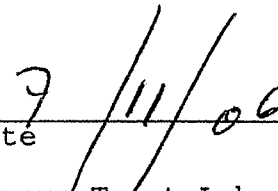
Date: 07/10/2006

  
Signature

Name: Dean A. Joiner

Title: Project Manager II

E-Mail: djoiner@stl-inc.com

  
Date

Severn Trent Laboratories  
6310 Rothway Drive  
Houston, TX 77040

PHONE: 713-690-4444

TOTAL NO. OF PAGES 48



STL

07/10/2006

Patrick Dworaczyk  
ATC Associates, Inc.  
3928 Bluebonnet Drive  
Stafford, TX 77477

Reference:

Project : 9003 N. MAIN  
Project No. : 318054  
Date Received : 06/21/2006  
STL Job : 318054

Dear Patrick Dworaczyk:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

1. B-1 12-14
2. B-2 20-22
3. B-3 20-22
4. B-1
5. B-2
6. B-3
7. TRIP BLANK

All hold times were met for the tests performed on these samples.

Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

The test results in this report meet all NELAP requirements for STL Houston's NELAP accredited parameters. Any exceptions to NELAP requirements will be noted and included in a case narrative as a part of this report.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Severn-Trent Laboratories to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dean A. Joiner".

Dean A. Joiner  
Project Manager



Table 1  
Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	Laboratory Identification	8021B	TX1005	8315	Comment
B-1 12-14	318054-1	X	X	X	
B-2 20-22	318054-2	X	X	X	
B-3 20-22	318054-3	X	X	X	
B-1	318054-4	X	X	X	
B-2	318054-5	X	X	X	
B-3	318054-6	X	X	X	
TRIP BLANK	318054-7				Trip Blank; Not on C-O-C; No Tests Assigned

# Appendix A Laboratory Data Package Cover Page

This data package consists of:

- This signature page, the laboratory review checklist, and the following reportable data:
- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) the amount of analyte measured in the duplicate,
  - b) the calculated RPD, and
  - c) the laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) for each analyte for each method and matrix;
- R10 Other problems or anomalies.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

**Release Statement:** I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

**Check, if applicable:** ☐ This laboratory is an in-house laboratory controlled by the person responding to rule. The official signing the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Norman Flynn  
Name (Printed)

Signature

Laboratory Director  
Official Title (printed)

7/12/06  
Date

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston		LRC Date: 06/26/06						
Project Name: 9003 N. MAIN		Laboratory Job Number: 318054						
Reviewer Name: MW		Prep Batch Number(s): 157296 (Soil)-TX1005						
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	<b>Chain-of-custody (C-O-C)</b>						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X				1
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	<b>Sample and quality control (QC) identification</b>						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	<b>Test reports</b>						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample quantitation limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		If required for the project, TICs reported?			X			
R4	O	<b>Surrogate recovery data</b>						
		Were surrogates added prior to extraction?	X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X					
R5	OI	<b>Test reports/summary forms for blank samples</b>						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	<b>Laboratory control samples (LCS):</b>						
		Were all COCs included in the LCS?		X				2
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X			
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X		3
		Were MS/MSD RPDs within laboratory QC limits?				X		3
R8	OI	<b>Analytical duplicate data</b>						
		Were appropriate analytical duplicates analyzed for each matrix?			X			
		Were analytical duplicates analyzed at the appropriate frequency?			X			
		Were RPDs or relative standard deviations within the laboratory QC limits?			X			
R9	OI	<b>Method quantitation limits (MQLs):</b>						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs included in the laboratory data package?	X					
R10	OI	<b>Other problems/anomalies</b>						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X					

SX

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157296 (Soil)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

- Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).
- Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- NA = Not applicable.
- NR = Not Reviewed.
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

<b>Appendix A (cont'd): Laboratory Review Checklist: Exception Reports</b>	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: MW	Prep Batch Number(s): 157296 (Soil)-TX1005
<b>ER #<sup>1</sup></b>	<b>DESCRIPTION</b>
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	Since calibration to the C28-C35 range is not required by the method, this range was not spiked into the LCS/LCSD. The final concentration of any hydrocarbons detected in this range was calculated from the response factor of the C12-C28 hydrocarbons. Based on this fact, the extraction efficiency of the C28-C35 range hydrocarbons was determined from the recovery of the C12-C28 hydrocarbons.
3	The laboratory selected another client's sample to perform as the MS/MSD.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157449 (Water)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?		X			2
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

SX

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

7

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: MW			Prep Batch Number(s): 157449 (Water)-TX1005				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).
- 2 Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 3 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 4 NA = Not applicable.
- 5 NR = Not Reviewed.
- 6 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: MW	Prep Batch Number(s): 157449 (Water)-TX1005
ER #	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	Since calibration to the C28-C35 range is not required by the method, this range was not spiked into the LCS/LCSD. The final concentration of any hydrocarbons detected in this range was calculated from the response factor of the C12-C28 hydrocarbons. Based on this fact, the extraction efficiency of the C28-C35 range hydrocarbons was determined from the recovery of the C12-C28 hydrocarbons.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)



Appendix A (cont'd): Laboratory Review Checklist: Reportable Data								
Laboratory Name: STL-Houston				LRC Date: 06/26/06				
Project Name: 9003 N. MAIN				Laboratory Job Number: 318054				
Reviewer Name: ERA				Prep Batch Number(s): 157581 (Soil)-BTEX				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>	
R1	OI	<b>Chain-of-custody (C-O-C)</b>						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X				1
		Were all departures from standard conditions described in an exception report?	X					
R2	OI	<b>Sample and quality control (QC) identification</b>						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X					
R3	OI	<b>Test reports</b>						
		Were all samples prepared and analyzed within holding times?	X					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		Were calculations checked by a peer or supervisor?	X					
		Were all analyte identifications checked by a peer or supervisor?	X					
		Were sample quantitation limits reported for all analytes not detected?	X					
		Were all results for soil and sediment samples reported on a dry weight basis?	X					
		Were % moisture (or solids) reported for all soil and sediment samples?	X					
		If required for the project, TICs reported?			X			
		R4	O	<b>Surrogate recovery data</b>				
Were surrogates added prior to extraction?	X							
Were surrogate percent recoveries in all samples within the laboratory QC limits?				X				2
R5	OI	<b>Test reports/summary forms for blank samples</b>						
		Were appropriate type(s) of blanks analyzed?	X					
		Were blanks analyzed at the appropriate frequency?	X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X					
		Were blank concentrations < MQL?	X					
R6	OI	<b>Laboratory control samples (LCS):</b>						
		Were all COCs included in the LCS?	X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X					
		Were LCSs analyzed at the required frequency?	X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X					
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X			
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>						
		Were the project/method specified analytes included in the MS and MSD?	X					
		Were MS/MSD analyzed at the appropriate frequency?	X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X					
		Were MS/MSD RPDs within laboratory QC limits?	X					
R8	OI	<b>Analytical duplicate data</b>						
		Were appropriate analytical duplicates analyzed for each matrix?			X			
		Were analytical duplicates analyzed at the appropriate frequency?			X			
		Were RPDs or relative standard deviations within the laboratory QC limits?			X			
R9	OI	<b>Method quantitation limits (MQLs):</b>						
		Are the MQLs for each method analyte included in the laboratory data package?	X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X					
		Are unadjusted MQLs included in the laboratory data package?	X					
R10	OI	<b>Other problems/anomalies</b>						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X					

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data									
Laboratory Name: STL-Houston					LRC Date: 06/26/06				
Project Name: 9003 N. MAIN					Laboratory Job Number: 318054				
Reviewer Name: ERA					Prep Batch Number(s): 157581 (Soil)-BTEx				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
S1	OI	<b>Initial calibration (ICAL)</b>							
		Were response factors and/or relative response factors for each analyte within QC limits?	X						
		Were percent RSDs or correlation coefficient criteria met?	X						
		Was the number of standards recommended in the method used for all analytes?	X						
		Were all points generated between the lowest and highest standard used to calculate the curve?	X						
		Are ICAL data available for all instruments used?	X						
		Has the initial calibration curve been verified using an appropriate second source standard?	X						
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>							
		Was the CCV analyzed at the method-required frequency?	X						
		Were percent differences for each analyte within the method-required QC limits?	X						
		Was the ICAL curve verified for each analyte?	X						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X				
S3	O	<b>Mass spectral tuning:</b>							
		Was the appropriate compound for the method used for tuning?			X				
		Were ion abundance data within the method-required QC limits?			X				
S4	O	<b>Internal standards (IS):</b>							
		Were IS area counts and retention times within the method-required QC limits?	X						
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>							
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X						
		Were data associated with manual integrations flagged on the raw data?	X						
S6	O	<b>Dual column confirmation</b>							
		Did dual column confirmation results meet the method-required QC?	X						
S7	O	<b>Tentatively identified compounds (TICs):</b>							
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X				
S8	I	<b>Interference Check Sample (ICS) results:</b>							
		Were percent recoveries within method QC limits?			X				
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>							
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X				
S10	OI	<b>Method detection limit (MDL) studies</b>							
		Was a MDL study performed for each reported analyte?	X						
		Is the MDL either adjusted or supported by the analysis of DCSs?	X						
S11	OI	<b>Proficiency test reports:</b>							
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X						
S12	OI	<b>Standards documentation</b>							
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X						
S13	OI	<b>Compound/analyte identification procedures</b>							
		Are the procedures for compound/analyte identification documented?	X						
S14	OI	<b>Demonstration of analyst competency (DOC)</b>							
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X						
		Is documentation of the analyst's competency up-to-date and on file?	X						
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>							
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X						
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>							
		Are laboratory SOPs current and on file for each method performed?	X						

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).  
Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 3 NA = Not applicable.
- 4 NR = Not Reviewed.
- 5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: ERA	Prep Batch Number(s): 157581 (Soil)-BTEX
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The a,a,a-trifluorotoluene surrogate recoveries on both columns and the bromofluorobenzene recovery on column SPB-624 in sample 318054-2 were outside acceptance limits due to matrix interference.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston			LRC Date: 06/26/06				
Project Name: 9003 N. MAIN			Laboratory Job Number: 318054				
Reviewer Name: ERA			Prep Batch Number(s): 157626 (Water)-BTEx				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			2
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	3
		Were MS/MSD RPDs within laboratory QC limits?				X	3
R8	OI	<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

- Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
- NA = Not applicable;
- NR = Not reviewed;
- ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston		LRC Date: 06/26/06					
Project Name: 9003 N. MAIN		Laboratory Job Number: 318054					
Reviewer Name: ERA		Prep Batch Number(s): 157626 (Water)-BTEX					
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
S1	OI	<b>Initial calibration (ICAL)</b>					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	<b>Mass spectral tuning:</b>					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	<b>Internal standards (IS):</b>					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	<b>Dual column confirmation</b>					
		Did dual column confirmation results meet the method-required QC?		X			4
S7	O	<b>Tentatively identified compounds (TICs):</b>					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	<b>Interference Check Sample (ICS) results:</b>					
		Were percent recoveries within method QC limits?			X		
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	<b>Method detection limit (MDL) studies</b>					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSSs?	X				
S11	OI	<b>Proficiency test reports:</b>					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	<b>Standards documentation</b>					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	<b>Compound/analyte identification procedures</b>					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	<b>Demonstration of analyst competency (DOC)</b>					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>					
		Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).

Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: ERA	Prep Batch Number(s): 157626 (Water)-BTEX
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The a,a,a-trifluorotoluene surrogate recoveries on both columns in sample 318054-4 were above acceptance limits due to matrix interference.
3	The laboratory selected another client's sample to perform as the MS/MSD.
4	The benzene RPD between the two columns in sample 318054-2 was >40%. Since anomalies were present, the lower of the two results was reported.

ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data							
Laboratory Name: STL-Houston				LRC Date: 06/26/06			
Project Name: 9003 N. MAIN				Laboratory Job Number: 318054			
Reviewer Name: JPS				Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde			
# <sup>1</sup>	A <sup>2</sup>	Description <sup>12</sup>	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>
R1	OI	<b>Chain-of-custody (C-O-C)</b>					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	<b>Sample and quality control (QC) identification</b>					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	<b>Test reports</b>					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?	X				
		If required for the project, TICs reported?			X		
R4	O	<b>Surrogate recovery data</b>					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	<b>Test reports/summary forms for blank samples</b>					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	<b>Laboratory control samples (LCS):</b>					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	<b>Matrix spike (MS) and matrix spike duplicate (MSD) data</b>					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	2
		Were MS/MSD RPDs within laboratory QC limits?				X	2
R8	OI	<b>Analytical duplicate data</b>					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	<b>Method quantitation limits (MQLs):</b>					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	<b>Other problems/anomalies</b>					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data									
Laboratory Name: STL-Houston					LRC Date: 06/26/06				
Project Name: 9003 N. MAIN					Laboratory Job Number: 318054				
Reviewer Name: JPS					Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>	ER# <sup>5</sup>		
S1	OI	<b>Initial calibration (ICAL)</b>							
		Were response factors and/or relative response factors for each analyte within QC limits?	X						
		Were percent RSDs or correlation coefficient criteria met?	X						
		Was the number of standards recommended in the method used for all analytes?	X						
		Were all points generated between the lowest and highest standard used to calculate the curve?	X						
		Are ICAL data available for all instruments used?	X						
		Has the initial calibration curve been verified using an appropriate second source standard?	X						
S2	OI	<b>Initial and continuing calibration verification (ICCV and CCV) and continuing calibration</b>							
		Was the CCV analyzed at the method-required frequency?	X						
		Were percent differences for each analyte within the method-required QC limits?	X						
		Was the ICAL curve verified for each analyte?	X						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X				
S3	O	<b>Mass spectral tuning:</b>							
		Was the appropriate compound for the method used for tuning?			X				
		Were ion abundance data within the method-required QC limits?			X				
S4	O	<b>Internal standards (IS):</b>							
		Were IS area counts and retention times within the method-required QC limits?			X				
S5	OI	<b>Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section</b>							
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X						
		Were data associated with manual integrations flagged on the raw data?	X						
S6	O	<b>Dual column confirmation</b>							
		Did dual column confirmation results meet the method-required QC?			X				
S7	O	<b>Tentatively identified compounds (TICs):</b>							
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X				
S8	I	<b>Interference Check Sample (ICS) results:</b>							
		Were percent recoveries within method QC limits?			X				
S9	I	<b>Serial dilutions, post digestion spikes, and method of standard additions</b>							
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X				
S10	OI	<b>Method detection limit (MDL) studies</b>							
		Was a MDL study performed for each reported analyte?	X						
		Is the MDL either adjusted or supported by the analysis of DCSSs?	X						
S11	OI	<b>Proficiency test reports:</b>							
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X						
S12	OI	<b>Standards documentation</b>							
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X						
S13	OI	<b>Compound/analyte identification procedures</b>							
		Are the procedures for compound/analyte identification documented?	X						
S14	OI	<b>Demonstration of analyst competency (DOC)</b>							
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X						
		Is documentation of the analyst's competency up-to-date and on file?	X						
S15	OI	<b>Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)</b>							
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X						
S16	OI	<b>Laboratory standard operating procedures (SOPs):</b>							
		Are laboratory SOPs current and on file for each method performed?	X						

- 1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s).  
Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
- 2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
- 3 NA = Not applicable.
- 4 NR = Not Reviewed.
- 5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).



Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 06/26/06
Project Name: 9003 N. MAIN	Laboratory Job Number: 318054
Reviewer Name: JPS	Prep Batch Number(s): 157516 (soil and Water)-Formaldehyde
ER # <sup>1</sup>	DESCRIPTION
1	The temperature of the cooler received by the laboratory on 06/21/06 was above the acceptable range of 2.0-6.0 °C.
2	The laboratory selected another client's sample to perform as the MS/MSD.

ER# = Exception Report identification number (an Exception Report should be completed for an item if -  
 "NR" or "No" is checked on the LRC)

CHAIN OF CUSTODY RECORD

Customer Information				Project Information				Analysis/Method																		
PO	WO	COMPANY	SEND REPORT TO	PROJECT NAME	LAB NUMBER	BILL TO	INVOICE ATTN	PROJECT NO.	LAB NO.	ANALYSIS	DATE															
		ATC Associates, Inc.	Patrick Dworaczyn	99004031-5,6,10,11		ATC Associates, Inc.	Patrick Dworaczyn	9903 N. Main		A: 8021 BTEX B: TPH TY 1005 C: 8315 Formaldehyde	57216-2															
ADDRESS				ADDRESS																						
3928 Bluebonnet Drive				3928 Bluebonnet Drive																						
CITY/STATE/ZIP				CITY/STATE/ZIP																						
Stafford, TX 77477				Stafford, TX 77477																						
PHONE				PHONE																						
281-240-0154				281-240-0154																						
FAX				FAX																						
281-240-8909				281-240-8909																						
SAMP NO.	SAMPLE DESCRIPTION	PRESERVE	F	SAMPLE MATRIX	SAMPLE DATE	SAMPLE TIME	# CONTAINER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
B-1	12-14			Soil	6-21-06	950		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B-2	20-22			Soil		1100		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B-3	20-22			Soil		1155		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B-1				Water		1210		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B-2				Water		1245		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
B-3				Water		100		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sampler:				Shipment Method: drop off				Airbill No.:				Required TurnAround: 5 Day!														
1. Relinquished By: <i>[Signature]</i>				2. Relinquished By: <i>[Signature]</i>				Date: 6-21-06				Date:														
Company Name: ATC				Company Name:				Time: 1331				Time:														
1. Received By: <i>[Signature]</i>				2. Received By: <i>[Signature]</i>				Date: 6-21-06				Date:														
Company Name: STL				Company Name:				Time: 1331				Time:														

rpjsckl		Job Sample Receipt Checklist Report		V2
Job Number.: 318054	Location.: 57216	Check List Number.: 1	Description.:	
Customer Job ID.....:		Job Check List Date.: 06/21/2006	Date of the Report...: 06/21/2006	
Project Number.: 99004031	Project Description.: TRRP Project		Project Manager.....: daj1	
Customer.....: ATC Associates, Inc.	Contact.: Patrick Dworaczyk			
Questions ?	(Y/N)	Comments		
Chain of Custody Received?.....	Y			
...If "yes", completed properly?.....	Y			
Custody seal on shipping container?.....	N			
...If "yes", custody seal intact?.....				
Custody seals on sample containers?.....	N			
...If "yes", custody seal intact?.....				
Samples chilled?.....	N	see src		
Temperature of cooler acceptable? (4 deg C +/- 2). N	18.6			
...If "no", is sample an air matrix?(no temp req.) N				
Thermometer ID.....	Y	437		
Samples received intact (good condition)?.....	Y			
Volatile samples acceptable? (no headspace).....	Y			
Correct containers used?.....	Y			
Adequate sample volume provided?.....	Y			
Samples preserved correctly?.....	Y			
Samples received within holding-time?.....	Y	y		
Agreement between CDC and sample labels?.....	Y			
Radioactivity at or below background levels?.....	Y			
Additional.....				
Comments.....				
Sample Custodian Signature/Date.....	Y	jac		

J1  
 b-21-b

# STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ATE CARRIER/DRIVER NAME: Client

PROJECT: \_\_\_\_\_ UNPACKED BY: \_\_\_\_\_

DATE RECEIVED: \_\_\_\_\_ UNPACKED STAMP: \_\_\_\_\_

TOTAL # COOLERS RECEIVED: \_\_\_\_\_

## COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Each Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
Gray/white	Y	C		18.6	437	N	Ch. 71 in progress
		B					
		C					
		B					
		C					
		B					

C = COOLER B = BOTTLES

COOLER(S) SCREENED FOR RADIATION? Yes \_\_\_ No \_\_\_ IF TEMP BLK N, HOW WAS TEMP TAKEN: \_\_\_\_\_

SHORT HOLD / RUSH SAMPLES (include department delivered to and time delivered)

\*\*\*\*\*

## SPECIFIC PROJECT INFORMATION

VOLATILE HEADSPACE ACCEPTABLE? Yes \_\_\_ No \_\_\_ NA \_\_\_  
(If ANY headspace is present, list details in INCONSISTENCIES section)

JOB NUMBER: \_\_\_\_\_  
Marked As Preserved? Yes \_\_\_ No \_\_\_  
Number of VOA Vials: 20

## pH OF WATER SAMPLES

PRESERVATION	# BOTTLES	CORRECT pH (Y/N)	If N, List sample ID and Corresponding pH
H2SO4 (<2)			
HNO3 (<2)			
HCL (<2) (Not VOA Vials)			
NaOH - Cyanide (>12)			
NaOH/Zn Acetate - Sulfide (>9)			
Other			

# OF NEAT BOTTLES: \_\_\_\_\_

# OF SOIL JARS: 6

INCONSISTENCIES - Place in Job Notes as well (CTRL F-12)

PERSON CONTACTED: \_\_\_\_\_ ACTION TAKEN \_\_\_\_\_ DATE: \_\_\_\_\_  
RESOLUTION \_\_\_\_\_

## NOTES

Project Manager \_\_\_\_\_

(Use back of sheet if necessary)

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: TCA Solutions, Inc. PROJECT: 9003 N MAIN ALLEN, PATTER DWORKINS

Customer Sample ID: B-1 12-14 Laboratory Sample ID: 318054-001

Date/Time Sampled : 6/21/2006 09:50

Sample Matrix : Soil

Date/Time Received : 6/21/2006 13:31

TEST METHOD	COARSE	RESULT	Q-FLAG	MDI	MOL	SOL	UNITS	ANALYST	Date/Time	Batch	MDI	ANALYST
<b>Method: SM-2540 G Mod., Soil</b>												
% Solids	NA	82.2					%		6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	17.8					%		6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>												
Benzene	71-43-2	5.60	U	4.60	10.0	5.60	ug/Kg		6/23/2006 20:50	157581	1.00	era
Ethylbenzene	100-41-4	7.42	U	6.10	10.0	7.42	ug/Kg		6/23/2006 20:50	157581	1.00	era
m,p-Xylene	MPXYLENE	15.4	U	12.7	20.0	15.4	ug/Kg		6/23/2006 20:50	157581	1.00	era
o-Xylene	95-47-6	7.86	U	6.46	10.0	7.86	ug/Kg		6/23/2006 20:50	157581	1.00	era
Toluene	108-88-3	7.74	U	6.36	10.0	7.74	ug/Kg		6/23/2006 20:50	157581	1.00	era
Xylenes (total)	1330-20-7	23.3	U	19.1	30.0	23.3	ug/Kg		6/23/2006 20:50	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>												
Formaldehyde	50-00-0	2520		2.87	100	69.9	ug/Kg		6/26/2006 11:56	157630	1.00	jps
<b>Method: SW846 8315, Water</b>												
Solid Phase Extraction	NA	Complete					N/A		6/23/2006 08:00	157516	1.00	enc

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: AIC Associates, Inc. PROJECT: 9003 N MAIN ALVIN, Harris County, Texas

Customer Sample ID: B-1 12-14 Laboratory Sample ID: 318054-001

Date/Time Sampled .....: 6/21/2006 09:50

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	RESULT	FLAG	MDL	NOI	SOI	UNITS	Analyte Date/Time	Batch	D.F. Analysis
<b>Method: TNRCC 1005, Soil</b>									
Petroleum Hydrocarbons C12 - C28	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465	1.00 mep
Petroleum Hydrocarbons C28 - C35	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465	1.00 mep
Petroleum Hydrocarbons C6 - C12	6.57	U	5.40	50.0	6.57	mg/Kg	6/22/2006 20:38	157465	1.00 mep
Petroleum Hydrocarbons C6 - C35	13.8	U	11.4	50.0	13.8	mg/Kg	6/22/2006 20:38	157465	1.00 mep
<b>Method: TNRCC TX-1005, Soil</b>									
TNRCC 1005 Extraction	Complete					N/A	6/21/2006 16:00	157296	1.00 lvp

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC ASSOCIATES INC. PROJECT: 9003 N MAIN ANALYST: Patrick Dvoroznyk

Customer Sample ID: B-2 20-22 Laboratory Sample ID: 318054-002

Date/Time Sampled .....: 6/21/2006 11:00

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CONC	RESULT	Q FLAG	MDL	MOE	SOI	UNITS	ANALYST	Date/Time	Batch	D.F.	ANALYST
<b>Method: SM-2540 G Mod., Soil</b>												
% Solids	NA	85.2					%		6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	14.8					%		6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>												
Benzene	71-43-2	72.0	I	4.60	10.0	5.40	ug/Kg		6/23/2006 21:30	157581	1.00	era
Ethylbenzene	100-41-4	785		6.10	10.0	7.16	ug/Kg		6/23/2006 21:30	157581	1.00	era
m,p-Xylene	MPXYLENE	1450		12.7	20.0	14.9	ug/Kg		6/23/2006 21:30	157581	1.00	era
o-Xylene	95-47-6	512		6.46	10.0	7.58	ug/Kg		6/23/2006 21:30	157581	1.00	era
Toluene	108-88-3	155		6.36	10.0	7.46	ug/Kg		6/23/2006 21:30	157581	1.00	era
Xylenes (total)	1330-20-7	1970		19.1	30.0	22.5	ug/Kg		6/23/2006 21:30	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>												
Formaldehyde	50-00-0	575		2.87	100	67.3	ug/Kg		6/26/2006 12:12	157630	1.00	jps
<b>Method: SW846 8315, Water</b>												
Solid Phase Extraction	NA	Complete					N/A		6/23/2006 08:00	157516	1.00	enc

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC Associates, Inc. PROJECT: 9408 N MAPS ATTN: Patrick Dworaczek

Customer Sample ID: B-2 20-22

Laboratory Sample ID: 318054-002

Date/Time Sampled .....: 6/21/2006 11:00

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	COAST	RESULT	Q FLAG	MBL	MOL	SOIL	UNITS	Analysis Date/Time	Batch	DIF	ANALYST
<b>Method: TNRCC 1005, Soil</b>											
Petroleum Hydrocarbons C12 - C28	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	6.32	U	5.40	50.0	6.32	mg/Kg	6/22/2006 21:44	157465	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 21:44	157465	1.00	mep
<b>Method: TNRCC TX-1005, Soil</b>											
TNRCC 1005 Extraction	NA	Complete					N/A	6/21/2006 16:00	157296	1.00	lvp



# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC Associates, Inc. PROJECT: 9003N MAIN ANALYST: Patrick Dvoracek

Customer Sample ID: B-3 20-22 Laboratory Sample ID: 318054-003

Date/Time Sampled .....: 6/21/2006 11:55

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

TEST/ANALYSIS	TEST CASE	RESULT	FLAG	MDL	MOL	SOIL	UNITS	Analysis Date/Time	Batch	D.P.	Analysis
<b>Method: SM-2540 G Mod., Soil</b>											
% Solids	NA	85.3					%	6/22/2006 16:30	157440	1.00	sdh
Moisture	MOIST	14.7					%	6/22/2006 16:30	157440	1.00	sdh
<b>Method: SW-846 8021B, Soil</b>											
Benzene	71-43-2	5.39	U	4.60	10.0	5.39	ug/Kg	6/23/2006 22:30	157581	1.00	era
Ethylbenzene	100-41-4	7.15	U	6.10	10.0	7.15	ug/Kg	6/23/2006 22:30	157581	1.00	era
m,p-Xylene	MPXYLENE	14.9	U	12.7	20.0	14.9	ug/Kg	6/23/2006 22:30	157581	1.00	era
o-Xylene	95-47-6	7.57	U	6.46	10.0	7.57	ug/Kg	6/23/2006 22:30	157581	1.00	era
Toluene	108-88-3	7.45	U	6.36	10.0	7.45	ug/Kg	6/23/2006 22:30	157581	1.00	era
Xylenes (total)	1330-20-7	22.4	U	19.1	30.0	22.4	ug/Kg	6/23/2006 22:30	157581	1.00	era
<b>Method: SW-846 8315, Soil</b>											
Formaldehyde	50-00-0	357		2.87	100	67.3	ug/Kg	6/26/2006 12:27	157630	1.00	jps
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

Customer: ALPINE, Patrick Dvoracek

PROJECT: 9003 N MAIN

Customer Sample ID: B-3 20-22 Laboratory Sample ID: 318054-003

Date/Time Sampled .....: 6/21/2006 11:55

Sample Matrix .....: Soil

Date/Time Received .....: 6/21/2006 13:31

Method	LOC	RESULT	FLAG	MDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	D.T. Analysis
<b>Method: TNRCC 1005, Soil</b>										
Petroleum Hydrocarbons C12 - C28	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C28 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C6 - C12	NA	6.33	U	5.40	50.0	6.33	mg/Kg	6/22/2006 22:17	157465	mcp
Petroleum Hydrocarbons C6 - C35	NA	13.3	U	11.4	50.0	13.3	mg/Kg	6/22/2006 22:17	157465	mcp
<b>Method: TNRCC TX-1005, Soil</b>										
TNRCC 1005 Extraction	NA	Complete					N/A	6/21/2006 16:00	157296	lvp

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: STI Associates Inc. PROJECT: 9103 N MAIN ANALYST: Patrick Dvoracek

Customer Sample ID: B-1

Laboratory Sample ID: 318054-004

Date/Time Sampled .....: 6/21/2006 12:10

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CAS#	RESULT	FLAG	NDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	D.P.	Analysis
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	25.6		0.170	0.500	0.170	ug/L	6/26/2006 10:20	157626	1.00	era
Ethylbenzene	100-41-4	131		0.230	0.500	0.230	ug/L	6/26/2006 10:20	157626	1.00	era
m,p-Xylene	MPXYLENE	297		0.370	1.00	0.370	ug/L	6/26/2006 10:20	157626	1.00	era
o-Xylene	95-47-6	99.9		0.190	0.500	0.190	ug/L	6/26/2006 10:20	157626	1.00	era
Toluene	108-88-3	7.05		0.190	0.500	0.190	ug/L	6/26/2006 10:20	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	27.6		2.87	5.00	3.38	ug/L	6/26/2006 12:58	157630	1.00	jps
<b>Method: TNRRCC1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/23/2006 23:03	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:03	157591	1.00	mep

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## TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

# ADITYA PATEL DODDARAJ K

Laboratory Sample ID: 318054-004

Sample Matrix .....: Water

Customer Sample ID: B-1

Date/Time Sampled	.....:	6/21/2006	12:10
-------------------	--------	-----------	-------

Date/Time Received	.....:	6/21/2006	13:31
--------------------	--------	-----------	-------

TEST METHOD	CASE #	RESULT	NO. FLAG	NO. DET.	MOI	SOL	UNIT	ANALYSIS DATE/TIME	Batch	DF	APPROV
Method: TNRCC TX-1005, Water											
TNRCC 1005 Extraction	NA	Complete						6/22/2006 14:30	157449	1.00	lvp

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATC Associates Inc. PROJECT: 9103-N-MAIN ANALYST: Patrick Dwyoraczynski

Customer Sample ID: B-2 Laboratory Sample ID: 318054-005

Date/Time Sampled .....: 6/21/2006 12:45

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CASE	RESULT	FLAG	MDL	UMOL	SOI	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	0.170	U	0.170	0.500	0.170	ug/L	6/26/2006 10:40	157626	1.00	era
Ethylbenzene	100-41-4	0.670		0.230	0.500	0.230	ug/L	6/26/2006 10:40	157626	1.00	era
m,p-Xylene	MPXYLENE	1.81		0.370	1.00	0.370	ug/L	6/26/2006 10:40	157626	1.00	era
o-Xylene	95-47-6	0.560		0.190	0.500	0.190	ug/L	6/26/2006 10:40	157626	1.00	era
Toluene	108-88-3	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 10:40	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	46.4		2.87	5.00	3.38	ug/L	6/26/2006 13:13	157630	1.00	jps
<b>Method: TNRCC 1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/23/2006 23:36	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.830	U	0.870	5.00	0.830	mg/L	6/23/2006 23:36	157591	1.00	mep

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: ATL Associates, Inc. PROJECT: 9002 N MAIN STREET, FAIRFAX, VA 22031 ANALYST: PAUL DWORZAK

Customer Sample ID: B-2 Laboratory Sample ID: 318054-005  
Date/Time Sampled .....: 6/21/2006 12:45 Sample Matrix .....: Water  
Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	LOAST	RESULTS	DIAG	MDI	MOL	SOIL	FUNCTIONS	ANALYST	Date/Time	Batch	DEF	ANALYST
Method: TNRCC TX-1005, Water												
TNRCC 1005 Extraction	NA	Complete					N/A		6/22/2006 14:30	157449	1.00	lvj

# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CHS OVERSIC Associates, Inc.

PROJECT: 900EN MAIN

APPROX: Patrick Dwyer

Customer Sample ID: B-3 Laboratory Sample ID: 318054-006

Date/Time Sampled .....: 6/21/2006 13:00

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	CAS #	RESULT	Q FLAG	MDL	NOI	SOL	UNITS	Analysis Date/Time	Batch	D.F.	ANALYST
<b>Method: SW-846 8021B, Water</b>											
Benzene	71-43-2	0.170	U	0.170	0.500	0.170	ug/L	6/26/2006 11:57	157626	1.00	era
Ethylbenzene	100-41-4	0.230	U	0.230	0.500	0.230	ug/L	6/26/2006 11:57	157626	1.00	era
m,p-Xylene	MPXYLENE	0.370	U	0.370	1.00	0.370	ug/L	6/26/2006 11:57	157626	1.00	era
o-Xylene	95-47-6	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 11:57	157626	1.00	era
Toluene	108-88-3	0.190	U	0.190	0.500	0.190	ug/L	6/26/2006 11:57	157626	1.00	era
<b>Method: SW846 8315, Water</b>											
Solid Phase Extraction	NA	Complete					N/A	6/23/2006 08:00	157516	1.00	enc
<b>Method: SW-846 8315, Water</b>											
Formaldehyde	50-00-0	9.80		2.87	5.00	3.54	ug/L	6/26/2006 13:29	157630	1.00	jps
<b>Method: TNRCC 1005, Water</b>											
Petroleum Hydrocarbons C12 - C28	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C28 - C35	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C6 - C12	NA	0.480	U	0.500	5.00	0.480	mg/L	6/24/2006 00:09	157591	1.00	mep
Petroleum Hydrocarbons C6 - C35	NA	0.840	U	0.870	5.00	0.840	mg/L	6/24/2006 00:09	157591	1.00	mep

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# TRRP Laboratory Test Results

Job Number: 318054

Date: 7/10/2006

CUSTOMER: AIC Associates, Inc. PROJECT: 9003 N MAIN ADJUT: Patrick Dvoraczek

Customer Sample ID: B-3

Laboratory Sample ID: 318054-006

Date/Time Sampled .....: 6/21/2006 13:00

Sample Matrix .....: Water

Date/Time Received .....: 6/21/2006 13:31

TEST METHOD	LOAS	RESULT	FLAG	MDL	MOI	SOL	UNITS	Analysis Date/Time	Batch	ID	Analysis
<b>Method: TNRCC TX-1005, Water</b>											
TNRCC 1005 Extraction	NA	Complete					N/A	6/22/2006 14:30	157449	1.00	lvp





# STL

QUALITY CONTROL RESULTS		
Job Number.: 318054	Report Date.: 07/10/2006	
CUSTOMER: ATC Associates, Inc.	PROJECT: 9003 N. MAIN	ATTN: Patrick Dworaczek

Test Method.....: SM-2540 G Mod.	Analyst....: sch
Method Description.: Moisture (Total + Fixed Solids, Ash)	Test Code.: %SOLID
Parameter.....: % Solids	Units.....: %
	Batch(s)....: 157440

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
DU	318054-3		85.8368			85.3351	0.6	10.0		06/22/2006	1630
DU	318174-6		83.8722			83.3475	0.6	10.0		06/22/2006	1630
DU	318107-4		98.3661			98.3314	0.0	10.0		06/22/2006	1630
DU	318174-16		85.3161			85.0272	0.3	10.0		06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
MB	157440--21		0.0000							06/22/2006	1630
DU	318100-8		79.4863			78.5088	1.2	10.0		06/22/2006	1630
DU	318146-1		15.6110			15.7773	1.1	10.0		06/22/2006	1630

Test Method.....: SM-2540 G Mod.	Analyst....: sch
Method Description.: Moisture (Total + Fixed Solids, Ash)	Test Code.: MOIST
Parameter.....: Moisture	Units.....: %
	Batch(s)....: 157440

QC	Lab ID	Reagent	QC Result	QC Result	True Value	Orig. Value	Calc. Result *	Limits	F	Date	Time
DU	318174-16		14.6839			14.9728	1.9	10.0		06/22/2006	1630
DU	318174-6		16.1278			16.6525	3.2	10.0		06/22/2006	1630
DU	318100-8		20.5137			21.4912	4.7	10.0		06/22/2006	1630
DU	318107-4		1.6339			1.6686	2.1	10.0		06/22/2006	1630
DU	318054-3		14.1632			14.6649	3.5	10.0		06/22/2006	1630
DU	318146-1		84.3890			84.2227	0.2	10.0		06/22/2006	1630



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN: Patrick Dworaczyk		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 80218	Units.....: ug/L	Analyst....: era
Method Description.: GC Volatile Organics	Batch(s)....: 157581 157626	

LCS	Laboratory Control Sample	BXS061206D	157581-1		06/23/2006	1709
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	46.6816		50.000000		93.4	61-125	
Benzene, Soil	52.0285		50.000000		104.1	69-133	
Toluene, Soil	52.1341		50.000000		104.3	70-134	
Ethylbenzene, Soil	52.0014		50.000000		104.0	71-139	
m,p-Xylene, Soil	109.893		100.000000		109.9	72-136	
o-Xylene, Soil	55.4779		50.000000		111.0	70-131	
Xylenes (total), Soil	166.0887		150.000000		110.7	70-130	
Total BTEX, Soil	322.2527		300.000000		107.4	70-130	
Tert-Butyl Methyl Ether Column B, Soil	45.1083		50.000000		90.2	61-125	
Benzene Column B, Soil	49.6298		50.000000		99.3	69-133	
Toluene Column B, Soil	51.3092		50.000000		102.6	70-134	
Ethylbenzene Column B, Soil	51.3521		50.000000		102.7	71-139	
m,p-Xylene Column B, Soil	104.727		100.000000		104.7	72-136	
o-Xylene Column B, Soil	56.1957		50.000000		112.4	70-131	

MB	Method Blank		157581-1		06/23/2006	1730
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	ND						
Benzene, Soil	ND						
Toluene, Soil	ND						
Ethylbenzene, Soil	ND						
m,p-Xylene, Soil	ND						
o-Xylene, Soil	ND						
Xylenes (total), Soil	0.0000						
Total BTEX, Soil	0.0000						
Tert-Butyl Methyl Ether Column B, Soil	ND						
Benzene Column B, Soil	ND						
Toluene Column B, Soil	ND						
Ethylbenzene Column B, Soil	ND						
m,p-Xylene Column B, Soil	ND						
o-Xylene Column B, Soil	ND						

SB	Spiked Blank	BXS061206C	157581-1		06/23/2006	1930
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	46.6336		50.000000	ND	93	30.0-130.0	
Benzene, Soil	50.6572		50.000000	ND	101	30.0-130.0	
Toluene, Soil	51.1370		50.000000	ND	102	30.0-130.0	
Ethylbenzene, Soil	50.0466		50.000000	ND	100	30.0-130.0	
m,p-Xylene, Soil	104.969		100.000000	ND	105	30.0-130.0	
o-Xylene, Soil	53.1742		50.000000	ND	106	30.0-130.0	
Xylenes (total), Soil	165.5110		150.000000	0.0000	110	30.0-130.0	
Total BTEX, Soil	320.0681		300.000000	0.0000	107	30.0-130.0	
Tert-Butyl Methyl Ether Column B, Soil	45.5755		50.000000	ND	91	30.0-130.0	
Benzene Column B, Soil	47.0232		50.000000	ND	94	30.0-130.0	

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

SB	Spiked Blank	BXS061206C	157581-1		06/23/2006	1930
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Toluene Column B, Soil	48.2890		50.000000	ND	97	30.0-130.0	
Ethylbenzene Column B, Soil	52.7629		50.000000	ND	106	30.0-130.0	
m,p-Xylene Column B, Soil	100.260		100.000000	ND	100	30.0-130.0	
o-Xylene Column B, Soil	60.5420		50.000000	ND	121	30.0-130.0	

SBD	Spiked Blank Duplicate	BXS061206C	157581-1		06/23/2006	1950
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Soil	49.6281	46.6336	50.000000	ND	99.3 6.2	30-130 20	
Benzene, Soil	54.0149	50.6572	50.000000	ND	108.0 6.4	30-130 20	
Toluene, Soil	54.0783	51.1370	50.000000	ND	108.2 5.6	30-130 20	
Ethylbenzene, Soil	54.2439	50.0466	50.000000	ND	108.5 8.0	30-130 20	
m,p-Xylene, Soil	113.256	104.969	100.000000	ND	113.3 7.6	30-130 20	
o-Xylene, Soil	56.5970	53.1742	50.000000	ND	113.2 6.2	30-130 20	
Xylenes (total), Soil	169.8530	165.5110	150.000000	0.0000	113.2 2.6	30-130 20	
Total BTEX, Soil	332.1901	320.0681	300.000000	0.0000	110.7 3.7	30-130 20	
Tert-Butyl Methyl Ether Column B, Soil	48.6404	45.5755	50.000000	ND	97.3 6.5	30-130 20	
Benzene Column B, Soil	50.4222	47.0232	50.000000	ND	100.8 7.0	30-130 20	
Toluene Column B, Soil	51.9796	48.2890	50.000000	ND	104.0 7.4	30-130 20	
Ethylbenzene Column B, Soil	53.2134	52.7629	50.000000	ND	106.4 0.9	30-130 20	
m,p-Xylene Column B, Soil	107.819	100.260	100.000000	ND	107.8 7.3	30-130 20	
o-Xylene Column B, Soil	55.7559	60.5420	50.000000	ND	111.5 8.2	30-130 20	

LCS	Laboratory Control Sample	BXS062106B	157626-1		06/26/2006	0729
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Water	49.1416		50.000000		98.3	76-123	
Benzene, Water	48.6675		50.000000		97.3	72-134	
Toluene, Water	49.1170		50.000000		98.2	76-131	
Ethylbenzene, Water	48.4982		50.000000		97.0	75-131	
m,p-Xylene, Water	99.1402		100.000000		99.1	75-130	
o-Xylene, Water	49.7578		50.000000		99.5	74-129	
Xylenes (total), Water	148.8980		150.000000		99.3	70-130	
Total BTEX, Water	295.1807		300.000000		98.4	70-130	
Tert-Butyl Methyl Ether Column B, Water	48.8600		50.000000		97.7	76-123	
Benzene Column B, Water	47.5087		50.000000		95.0	72-134	



# STL

QUALITY CONTROL RESULTS					
Job Number.: 318054			Report Date.: 07/10/2006		
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

LCS	Laboratory Control Sample	BXS062106B	157626-1		06/26/2006 0729
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Toluene Column B, Water	48.5180		50.000000		97.0	76-131	
Ethylbenzene Column B, Water	47.7200		50.000000		95.4	75-131	
m,p-Xylene Column B, Water	98.3282		100.000000		98.3	75-130	
o-Xylene Column B, Water	48.3311		50.000000		96.7	74-129	

MB	Method Blank		157626-1		06/26/2006 0749
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, Water	ND						
Benzene, Water	ND						
Toluene, Water	ND						
Ethylbenzene, Water	ND						
m,p-Xylene, Water	ND						
o-Xylene, Water	ND						
Xylenes (total), Water	0.0000						
Total BTEX, Water	0.0000						
Tert-Butyl Methyl Ether Column B, Water	ND						
Benzene Column B, Water	ND						
Toluene Column B, Water	ND						
Ethylbenzene Column B, Water	ND						
m,p-Xylene Column B, Water	ND						
o-Xylene Column B, Water	ND						

MB	Method Blank		157626-1	20.000	06/26/2006 0819
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	ND						
Benzene, SPLP	ND						
Toluene, SPLP	ND						
Ethylbenzene, SPLP	ND						
m,p-Xylene, SPLP	ND						
o-Xylene, SPLP	ND						
Xylenes (total), SPLP	0.0000						
Total BTEX, SPLP	0.0000						
Tert-Butyl Methyl Ether Column B, SPLP	ND						
Benzene Column B, SPLP	ND						
Toluene Column B, SPLP	ND						
Ethylbenzene Column B, SPLP	ND						
m,p-Xylene Column B, SPLP	ND						
o-Xylene Column B, SPLP	ND						

MS	Matrix Spike	BXS062306B	317399-1	20.000	06/26/2006 0940
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	50.4870		50.000000	1.37053	98	70-130	
Benzene, SPLP	43.9578		50.000000	ND	88	70-130	
Toluene, SPLP	43.9321		50.000000	ND	88	70-130	
Ethylbenzene, SPLP	43.0510		50.000000	ND	86	70-130	



# STL

QUALITY CONTROL RESULTS					
Job Number.: 318054			Report Date.: 07/10/2006		
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time

MS	Matrix Spike	BXS062306B	317399-1	20.000	06/26/2006 0940
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
m,p-Xylene, SPLP	89.7171		100.000000	ND	90	70-130	
o-Xylene, SPLP	44.1903		50.000000	ND	88	70-130	
Xylenes (total), SPLP	133.9074		150.000000	0.0000	89	70-130	
Total BTEX, SPLP	264.8483		300.000000	0.0000	88	70-130	
Tert-Butyl Methyl Ether Column B, SPLP	50.6467		50.000000	1.78440	98	70-130	
Benzene Column B, SPLP	42.8537		50.000000	ND	86	70-130	
Toluene Column B, SPLP	42.8234		50.000000	ND	86	70-130	
Ethylbenzene Column B, SPLP	42.4284		50.000000	ND	85	70-130	
m,p-Xylene Column B, SPLP	87.2334		100.000000	ND	87	70-130	
o-Xylene Column B, SPLP	42.8149		50.000000	ND	86	70-130	

MSD	Matrix Spike Duplicate	BXS062306B	317399-1	20.000	06/26/2006 1000
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Methyl tert-Butyl ether, SPLP	52.0804	50.4870	50.000000	1.37053	101.4 3.2	70-130 20	
Benzene, SPLP	44.1746	43.9578	50.000000	ND	88.3 0.5	70-130 20	
Toluene, SPLP	43.9849	43.9321	50.000000	ND	88.0 0.1	70-130 20	
Ethylbenzene, SPLP	43.3784	43.0510	50.000000	ND	86.8 0.8	70-130 20	
m,p-Xylene, SPLP	90.1354	89.7171	100.000000	ND	90.1 0.5	70-130 20	
o-Xylene, SPLP	44.5674	44.1903	50.000000	ND	89.1 0.8	70-130 20	
Xylenes (total), SPLP	134.7028	133.9074	150.000000	0.0000	89.8 0.6	70-130 20	
Total BTEX, SPLP	266.2407	264.8483	300.000000	0.0000	88.7 0.5	70-130 20	
Tert-Butyl Methyl Ether Column B, SPLP	52.1440	50.6467	50.000000	1.78440	100.7 3.0	70-130 20	
Benzene Column B, SPLP	42.8282	42.8537	50.000000	ND	85.7 0.1	70-130 20	
Toluene Column B, SPLP	42.7408	42.8234	50.000000	ND	85.5 0.2	70-130 20	
Ethylbenzene Column B, SPLP	42.3851	42.4284	50.000000	ND	84.8 0.1	70-130 20	
m,p-Xylene Column B, SPLP	87.2536	87.2334	100.000000	ND	87.3 0.0	70-130 20	
o-Xylene Column B, SPLP	42.9718	42.8149	50.000000	ND	85.9 0.4	70-130 20	



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN			ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: TNRC 1005	Units.....: mg/L	Analyst...: mep
Method Description.: Direct Analytical TPH Method TX 1005	Batch(s)....: 157402 157591	

LCD	Laboratory Control Sample Duplicate	GCL051906	157296-1		06/21/2006	2012
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	236.881	234.799	250.000000	ND	95 0.9	70-130 20	
Petroleum Hydrocarbons C12 - C28, Soil	275.306	281.051	250.000000	ND	110 2.1	70-130 20	
Petroleum Hydrocarbons C6 - C35, Soil	512.187	515.849	500.000000	ND	102 0.7	70-130 20	

LCS	Laboratory Control Sample	GCL051906	157296-1		06/21/2006	1938
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	234.799		250.000000	ND	93.9	70-130	
Petroleum Hydrocarbons C12 - C28, Soil	281.051		250.000000	ND	112.4	70-130	
Petroleum Hydrocarbons C6 - C35, Soil	515.849		500.000000	ND	103.2	70-130	

MB	Method Blank	GC061306	157296-1		06/21/2006	1905
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	ND						
Petroleum Hydrocarbons C12 - C28, Soil	ND						
Petroleum Hydrocarbons C28 - C35, Soil	ND						
Petroleum Hydrocarbons C6 - C35, Soil	ND						

MS	Matrix Spike	GCS061906	318024-2		06/21/2006	2151
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	232.221		250.000000	ND	93	70-130	
Petroleum Hydrocarbons C12 - C28, Soil	174.600		250.000000	173.813	0	70-130	A
Petroleum Hydrocarbons C6 - C35, Soil	406.821		500.000000	354.574	10	70-130	A

MSD	Matrix Spike Duplicate	GCS061906	318024-2		06/21/2006	2224
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Soil	222.920	232.221	250.000000	ND	89 4.1	70-130 20.0	
Petroleum Hydrocarbons C12 - C28, Soil	184.975	174.600	250.000000	173.813	4 5.8	70-130 20.0	A
Petroleum Hydrocarbons C6 - C35, Soil	407.896	406.821	500.000000	354.574	11 0.3	70-130 20.0	A



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN		ATTN:		
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

LCD	Laboratory Control Sample Duplicate	GCL051906	157449-1		06/23/2006	1516
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	337.174	356.667	333.333333	ND	101 5.6	70-130 20	
Petroleum Hydrocarbons C12 - C28, Water	300.856	321.956	333.333333	ND	90 6.8	70-130 20	
Petroleum Hydrocarbons C6 - C35, Water	638.030	678.622	666.666667	ND	96 6.2	70-130 20	

LCS	Laboratory Control Sample	GCL051906	157449-1		06/23/2006	1443
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	356.667		333.333333	ND	107.0	70-130	
Petroleum Hydrocarbons C12 - C28, Water	321.956		333.333333	ND	96.6	70-130	
Petroleum Hydrocarbons C6 - C35, Water	678.622		666.666667	ND	101.8	70-130	

MB	Method Blank	GCS061306	157449-1		06/23/2006	1410
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	ND						
Petroleum Hydrocarbons C12 - C28, Water	ND						
Petroleum Hydrocarbons C28 - C35, Water	ND						
Petroleum Hydrocarbons C6 - C35, Water	ND						

SB	Spiked Blank	GCS061906	157449-1		06/23/2006	1549
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	369.036		333.333333	ND	110.7	70-130	
Petroleum Hydrocarbons C12 - C28, Water	387.017		333.333333	ND	116.1	70-130	
Petroleum Hydrocarbons C6 - C35, Water	756.053		666.666667	ND	113.4	70-130	

SBD	Spiked Blank Duplicate	GCS061906	157449-1		06/23/2006	1623
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Petroleum Hydrocarbons C6 - C12, Water	345.353	369.036	333.333333	ND	103.6 6.6	70-130 20	
Petroleum Hydrocarbons C12 - C28, Water	316.809	387.017	333.333333	ND	95.0 20.0	70-130 20	
Petroleum Hydrocarbons C6 - C35, Water	662.162	756.053	666.666667	ND	99.3 13.2	70-130 20	



# STL

QUALITY CONTROL RESULTS						
Job Number.: 318054			Report Date.: 07/10/2006			
CUSTOMER: ATC Associates, Inc.		PROJECT: 9003 N. MAIN			ATTN:	
QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8315	Units.....: ug/L	Analyst....: jps
Method Description.: Formaldehyde by HPLC	Batch(s)....: 157630	

LCS	Laboratory Control Sample	LC050106	157516		06/26/2006	1024
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Water	1069.64		10000.		107.0	39-153	

MB	Method Blank		157516		06/26/2006	1009
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Water	ND						

MS	Matrix Spike	LC050206	318178-1		06/26/2006	1055
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Liquid	991.05		10000.	29.92	96	39-153	

MSD	Matrix Spike Duplicate	LC050206	318178-1		06/26/2006	1110
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Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	* Limits	F
Formaldehyde, Liquid	904.06	991.05	10000.	29.92	87.4 9.5	70-130 20	





# STL

## SURROGATE RECOVERIES REPORT

Job Number.: 318054

Report Date.: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworczyk

Method.....: GC Volatile Organics  
Batch(s).....: 157626Method Code...: 8021  
Test Matrix...: WaterPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157626-	1	LCS	06/26/2006	107.2	108.0	105.3	107.7
157626-	1	MB	06/26/2006	116.0	115.1	111.9	113.7
318054-	4	B-1	06/26/2006	185.8A	142.2A	107.7	98.2
318054-	5	B-2	06/26/2006	117.5	116.0	113.7	111.6
318054-	6	B-3	06/26/2006	117.0	117.0	112.2	116.5

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	70 - 135
ATFTB	a,a,a-Trifluorotoluene Column B	70 - 135
BFB	BFB (Surrogate)	64 - 136
BFBB	BFB (Surrogate) Column B	64 - 136

Method.....: GC Volatile Organics  
Batch(s).....: 157626Method Code...: 8021  
Test Matrix...: SPLPPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157626-	1	MB	06/26/2006	119.7	115.4	111.6	114.0
317399-	1	MS BA1R 4'	06/26/2006	114.8	115.2	109.7	111.6
317399-	1	MSD BA1R 4'	06/26/2006	114.8	115.0	111.0	112.3

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	70 - 135
ATFTB	a,a,a-Trifluorotoluene Column B	70 - 135
BFB	BFB (Surrogate)	64 - 136
BFBB	BFB (Surrogate) Column B	64 - 136

Method.....: GC Volatile Organics  
Batch(s).....: 157581Method Code...: 8021  
Test Matrix...: SoilPrep Batch....:   
Equipment Code: BTEX02

Lab ID	DT	Sample ID	Date	ATFT	ATFTB	BFB	BFBB
157581-	1	LCS	06/23/2006	104.0	104.1	107.2	102.3
157581-	1	MB	06/23/2006	111.3	113.3	106.2	106.0
157581-	1	SB	06/23/2006	103.6	106.8	93.8	103.4
157581-	1	SBD	06/23/2006	106.9	108.7	110.7	106.9
318054-	1	B-1 12-14	06/23/2006	94.6	96.3	92.0	97.5
318054-	2	B-2 20-22	06/23/2006	153.3A	183.1A	15.7A	103.4
318054-	3	B-3 20-22	06/23/2006	86.1	86.0	85.0	91.3

Test	Test Description	Limits
ATFT	a,a,a-Trifluorotoluene	50 - 150
ATFTB	a,a,a-Trifluorotoluene Column B	50 - 150
BFB	BFB (Surrogate)	50 - 150
BFBB	BFB (Surrogate) Column B	50 - 150



# STL

## SURROGATE RECOVERIES REPORT

Job Number.: 318054

Report Date.: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworaczyk

Method.....: Direct Analytical TPH Method TX 1005  
Batch(s).....: 157402 157465Method Code...: TX1005  
Test Matrix...: SoilPrep Batch....: 157296  
Equipment Code: EXTGC12

Lab ID	DT	Sample ID	Date	OTERPH
157296-	1	LCD	06/21/2006	93.34
157296-	1	LCS	06/21/2006	94.02
157296-	1	MB	06/21/2006	89.50
318024-	2	MS EPO-45-1-(5'-6')	06/21/2006	85.43
318024-	2	MSD EPO-45-1-(5'-6')	06/21/2006	89.00
318054-	1	B-1 12-14	06/22/2006	95.08
318054-	2	B-2 20-22	06/22/2006	93.28
318054-	3	B-3 20-22	06/22/2006	91.91

Test	Test Description	Limits
OTERPH	o-Terphenyl	70 - 130

Method.....: Direct Analytical TPH Method TX 1005  
Batch(s).....: 157591Method Code...: TX1005  
Test Matrix...: WaterPrep Batch....: 157449  
Equipment Code: EXTGC12

Lab ID	DT	Sample ID	Date	OTERPH
157449-	1	LCD	06/23/2006	96.46
157449-	1	LCS	06/23/2006	102.3
157449-	1	MB	06/23/2006	101.4
157449-	1	SB	06/23/2006	116.6
157449-	1	SBD	06/23/2006	104.9
318054-	4	B-1	06/23/2006	102.8
318054-	5	B-2	06/23/2006	101.0
318054-	6	B-3	06/24/2006	107.3

Test	Test Description	Limits
OTERPH	o-Terphenyl	70 - 130

## QUALITY ASSURANCE METHODS

## REFERENCES AND NOTES

Report Date: 07/10/2006

## REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 3) According to 40CFR Part 136.3, pH, Chlorine Residual, and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field, (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.
- 4) For all USACE projects, the QC limits are based on "mean +/- 2 sigma", which are the warning limits.

## General Information:

- Cresylic Acid is the combination of o,m and p-Cresol. The combination is reported as the final result.
- m-Cresol and p-Cresol co-elute. The result of the two is reported as either m&p-cresol or as p-cresol.
- m-Xylene and p-Xylene co-elute. The result of the two is reported as m,p-Xylene.
- N-Nitrosodiphenylamine decomposes in the gas chromatograph inlet forming dipheylamine and, consequently, may be detected as diphenylamine.
- Methylene Chloride and Acetone are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- Trimethylsilyl(Diazomethane) is used to esterify acid herbicides in Method SW-846 8151A.
- For Inorganic analyses, duplicate QC limits are determined as follows: If the sample result is less than or equal to 5 times the reporting limit, the RPD limit is equal to the reporting limit. If the sample result is greater than 5 times the reporting limit, the RPD limit is the method defined RPD.
- For TRRP reports, the header on the column RL is equivalent to a MQL/PQL.

## Explanation of Qualifiers:

- U - This qualifier indicates that the analyte was analyzed but not detected.
- J - (Organics only) This qualifier indicates that the analyte is an estimated value between the RL and the MDL.
- B - (Inorganics only) This Qualifier indicates that the analyte is an estimated value between the RL and the MDL.
- N - (Organics only) This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as "chlorinated hydrocarbon", the "N" flag is not used.

## Explanation of General QC Outliers:

- A - Matrix interference present in sample.
- a - MS/MSD analyses yielded comparable poor recoveries, indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recoveries.
- b - Target analyte was found in the method blank.
- M - QC sample analysis yielded recoveries outside QC acceptance criteria. This sample was reanalyzed.
- L - LCS analysis yielded high recoveries, indicating a potential high bias. No target analytes were observed above the RL in the associated samples.
- G - Marginal outlier within 1% of acceptance criteria.
- r - RPD value is outside method acceptance criteria.
- C - Poor RPD values observed due to the non-homogenous nature of the sample.
- O - Sample required dilution due to matrix interference.
- D - Sample reported from a dilution.
- d - Spike and/or surrogate diluted.
- P - The recovery of this analyte is outside default QC limits. The data is accepted and will be used to calculate in-house statistical limits.
- E - The reported concentration exceeds the instrument calibration.
- F - The analyte is outside QC limits. The sample data is accepted since this analyte is not reported in associated samples.
- H - Continuing Calibration Verification (CCV) standard is not associated with the samples reported.

## QUALITY ASSURANCE METHODS

## REFERENCES AND NOTES

Report Date: 07/10/2006

- q - See the subcontract final report for qualifier explanation.
- W - The MS/MSD recoveries are outside QC acceptance criteria because the amount spiked is much less than the amount found in the sample.
- K - High recovery will not affect the quality of reported results.
- Z - See case narrative.

## Explanation of Organic QC Outliers:

- e - Method blank analysis yielded phthalate concentrations above the RL. Phthalates are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- S - Sample reanalyzed/reextracted due to poor surrogate recovery. Reanalysis confirmed original analysis indicating a possible matrix interference.
- T - Sample analysis yielded poor surrogate recovery.
- R - The RPD between the two GC columns is greater than 40% and no anomalies are present. The higher result is reported as per EPA Method 8000B.
- I - The RPD between the two GC columns is greater than 40% and anomalies are present. The lower of the two results has been reported.
- X - Gaseous compound. In-house QC limits are advisory.
- Y - Ketone compounds have poor purge efficiency. In-house QC limits are advisory.
- f - Surrogate not associated with reported analytes.

## Explanation of Inorganic QC Outliers:

- Q - Method blank analysis yielded target analytes above the RL. Associated sample results are greater than 10 times the concentrations observed in the method blank.
- V - The RPD control limit for sample results less than 5 times the RL is +/- the RL value. Sample and duplicate results are within method acceptance criteria.
- e - Serial dilution failed due to matrix interference.
- g - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is greater than or equal to 0.995.
- s - BOD/cBOD seed value is not within method acceptance criteria. Due to the nature of the test method, the sample cannot be reanalyzed.
- l - BOD/cBOD LCS value is not within method acceptance criteria. Due to the nature of the test method, sample cannot be reanalyzed.
- N - Spiked sample recovery is not within control limits.
- n - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is less than 0.995.
- \* - Duplicate analysis is not within control limits.

## Abbreviations:

- Batch - Designation given to identify a specific extraction, digestion, preparation, or analysis set.
- CCV - Continuing Calibration Verification
- CRA - Low level standard check - GFAA, Mercury
- CR1 - Low level standard check - ICP
- Dil Fac - Dilution Factor - Secondary dilution analysis
- DLFac - Detection Limit Factor
- DU - Duplicate
- EB - Extraction Blank (TCLP, SPLP, etc.)
- ICAL - Initial Calibration
- ICB - Initial Calibration Blank
- ICV - Initial Calibration Verification
- ISA - Interference Check Sample A - ICP
- ISB - Interference Check Sample B - ICP
- LCD - Laboratory Control Duplicate
- LCS - Laboratory Control Sample

## QUALITY ASSURANCE METHODS

## REFERENCES AND NOTES

Report Date: 07/10/2006

MB	- Method Blank
MD	- Method Duplicate
MDL	- Method Detection Limit
MQL	- Method Quantitation Limit (TRRP)
MS	- Matrix Spike
MSD	- Matrix Spike Duplicate
ND	- Not Detected
PB	- Preparation Blank
PREPF	- Preparation Factor
RL	- Reporting Limit
RPD	- Relative Percent Difference
RRF	- Relative Response Factor
RT	- Retention Time
SQL	- Sample Quantitation Limit (TRRP)
TIC	- Tentatively Identified Compound

## Method References:

- (1) EPA 600/4-79-020 Methods for the Analysis of Water and Wastes, March 1983.
- (2) EPA 600/R-94-111 Methods for the Determination of Metals in Environmental Samples, Supplement I, May 1994.
- (3) EPA SW846 Test Methods for Evaluating Solid Waste, Third Edition, September 1986; Update I July 1992; Update II, September 1994, Update IIA August 1993; Update IIB, January 1995; Update III, December 1996, Update IVA January 1998, Update IVB November 2000.
- (4) Standard Methods for the Examination of Water and Wastewater, 16th Edition (1985), 17th Edition (1989), 18th Edition (1992), 19th Edition (1995), 20th Edition (1998).
- (5) HACH Water Analysis Handbook 3rd Edition (1997).
- (6) Federal Register, July 1, 1990 (40 CFR Part 136 Appendix A).
- (7) Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, 2nd Edition, January 1997.
- (9) Diagnosis and Improvement of Saline and Alkali Soils, Agriculture Handbook No. 60, United States Department of Agriculture, 1954.

**LABORATORY CHRONICLE**

Job Number: 318054

Date: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworaczky

Lab ID: 318054-1	Client ID: B-1 12-14	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
	Data Package Validation	1	158535			07/10/2006 0000
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2038
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1156
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2050
	GC Volatiles Data Package Production	1				
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-2	Client ID: B-2 20-22	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2144
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1212
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2130
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-3	Client ID: B-3 20-22	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157465	157296		06/22/2006 2217
	Extractable GC Data Package Production	1	157594			06/26/2006 1045
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1227
SW-846 8021B	GC Volatile Organics	1	157581			06/23/2006 2230
SM-2540 G Mod.	Moisture (Total + Fixed Solids, Ash)	1	157440			06/22/2006 1630
TNRCC TX-1005	TNRCC 1005 Extraction (Ultrasonic)	1	157296			06/21/2006 1600
SW-846 1311	Toxicity Characteristic Leachate Proced.	1	157473			06/22/2006 2230
Lab ID: 318054-4	Client ID: B-1	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/23/2006 2303
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1258
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1020
TNRCC TX-1005	TX-1005 Extraction Water	1	157449			06/22/2006 1430
Lab ID: 318054-5	Client ID: B-2	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/23/2006 2336
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1313
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1040
TNRCC TX-1005	TX-1005 Extraction Water	1	157449			06/22/2006 1430
Lab ID: 318054-6	Client ID: B-3	Date Recvd: 06/21/2006	Sample Date: 06/21/2006			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED
TNRCC 1005	Direct Analytical TPH Method TX 1005	1	157591	157449		06/24/2006 0009
SW846 8315	Extraction Formaldehyde Waters	1	157516			06/23/2006 0800
SW-846 8315	Formaldehyde by HPLC	1	157630	157516		06/26/2006 1329
SW-846 8021B	GC Volatile Organics	1	157626			06/26/2006 1157



Job Number: 318054

Date: 07/10/2006

CUSTOMER: ATC Associates, Inc.

PROJECT: 9003 N. MAIN

ATTN: Patrick Dworaczuk

Lab ID: 318054-6	Client ID: B-3
METHOD	DESCRIPTION
TNRCC TX-1005	TX-1005 Extraction Water

Date Recvd: 06/21/2006    Sample Date: 06/21/2006

RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
1	157449			06/22/2006 1430	